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MAR 9 1960

Oceanography and Skipjack p11

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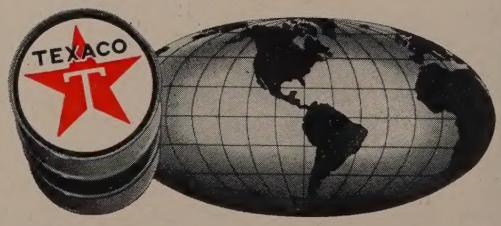

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Our Fifty-Eighth Year— FEBRUARY 1960 Vol. 58 No. 3

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"The revival of the commercial fisheries is an absolute imperative"

—Governor William A. Egan of Alaska

(Following are excerpts from the address of Governor Egan to the second session of the legislature of the State of Alaska, delivered at Juneau, Jan. 26, 1960.)

● "On January 1 of this year, Alaska's Department of Fish and Game was handed the depleted remnants of what was once a rich and prolific fishery. From a peak of three-quarters of a billion pounds in 1936, production dropped in 1959 to its lowest in 60 years.

"On these ruins of a once-great resource, the department must rebuild. Our gain is that we can profit by studying the destructive practices, mistakes and omissions of the past.

"The revival of the commercial fisheries is an absolute imperative. The livelihood of thousands of fishermen and the very existence of many communities scattered along thousands of miles of continental and island coastline depends upon improvement of the fisheries. To this end we will give our best efforts.

"The past year saw substantial change in the program of the State Division of Commercial Fisheries as emphasis switched from the restricted field of watershed improvement to that of over-all management. A nucleus of personnel was created in each district to become familiar with the fisheries of the area and with local management problems. . . .

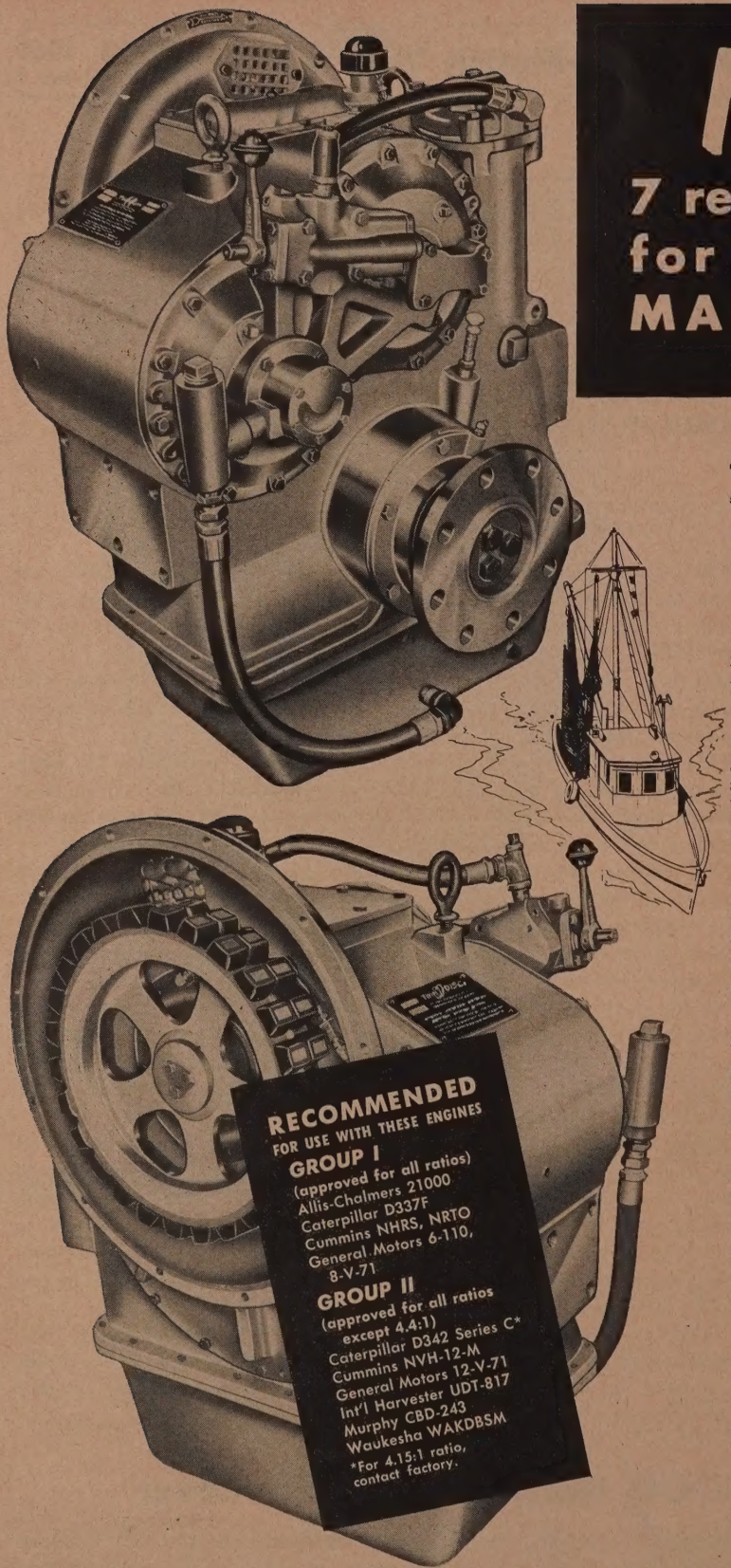
"Of the many changes that will be effected under state control, none will be greater than the bid for public support in the administration of the Fish and Game program. Under Federal control, it was not easy for the average Alaskan to make himself heard, except for annual brief public hearings during which, due to isolation, many communities were not represented.

"Under state control, the eight-member Fish and Game Board is assisted by more than 25 advisory committees located in communities from Ketchikan to Barrow. These committees, comprising some 300 members, serve as a year-round sounding board for public opinion in the local communities. The information so gathered is an invaluable aid to the board in drawing up annual regulations. More advisory committees will be organized and more communities will be represented as the administration of this resource becomes complete. . . .

"In fisheries and game, programming is based on recognition of need to overcome errors of the past. In these fields it will be our purpose to provide proper conservation and utilization policies based on adequate research and common sense evaluations."

GOOD FISHING— On the Cover

● Fishing so good that these Canadian gillnetters couldn't pick their net as they hauled it at closing time is shown in our cover photograph. They wrapped net and fish together on their drum and headed for Port Renfrew to pick their fish. (Canadian National Film Board photo.)



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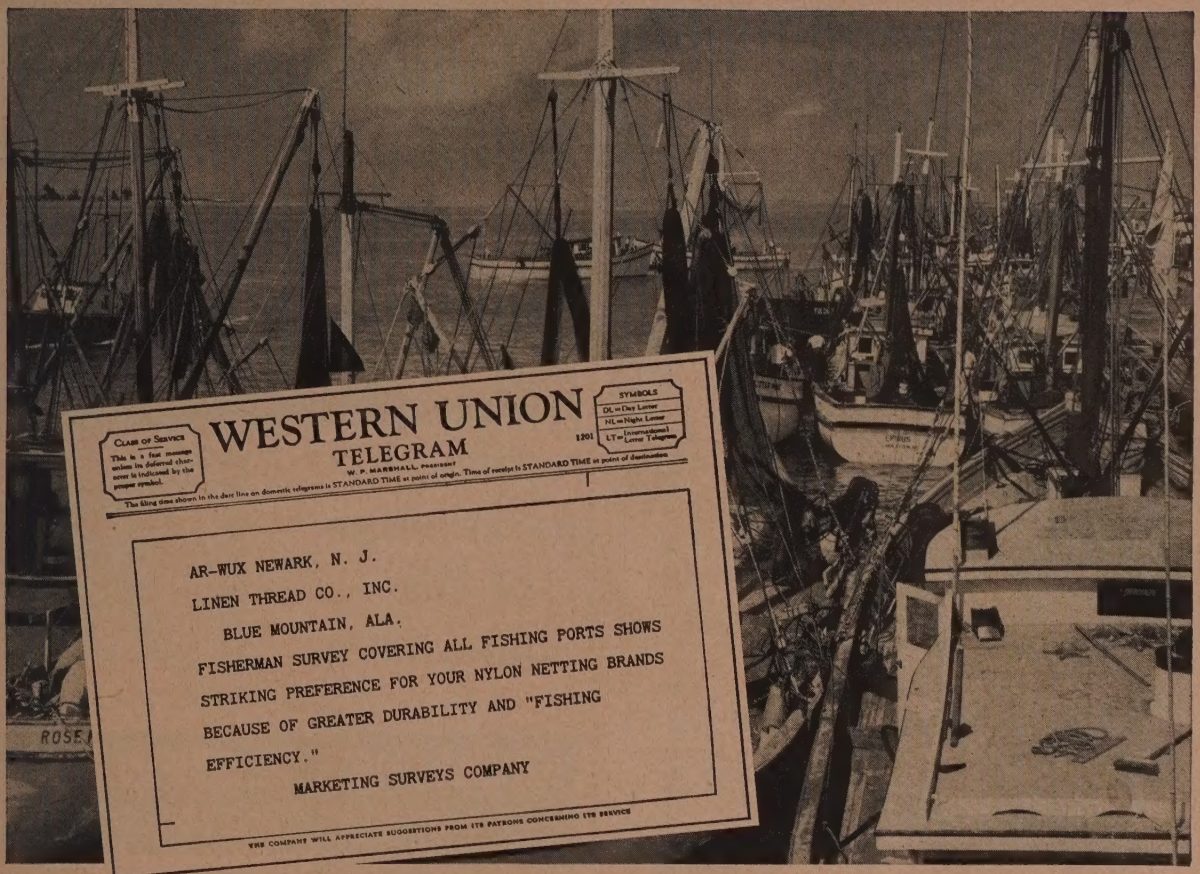
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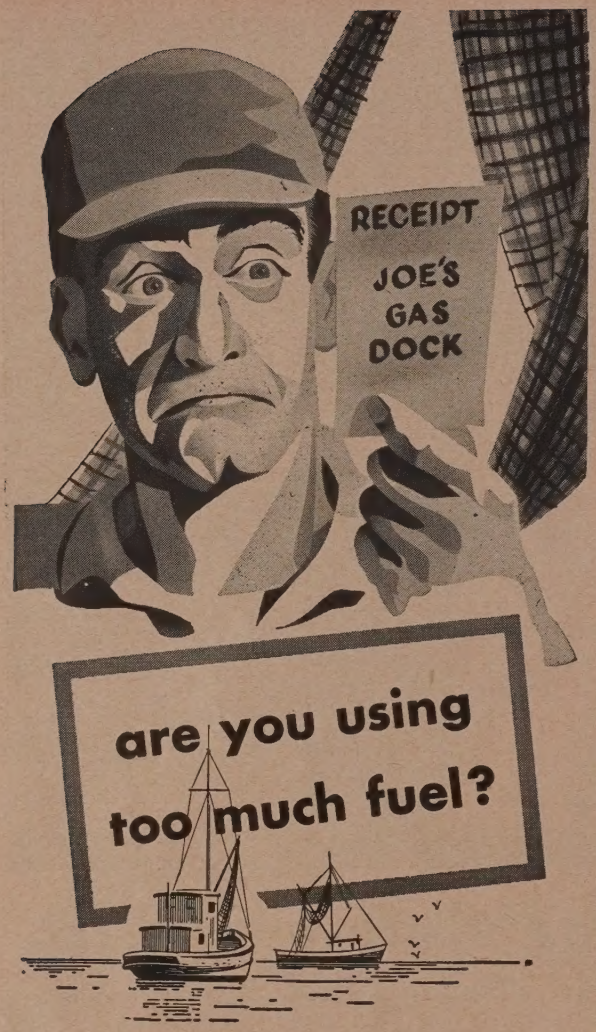

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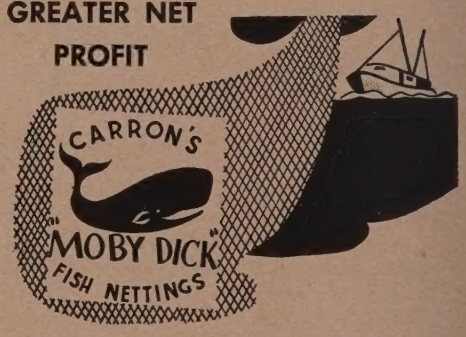

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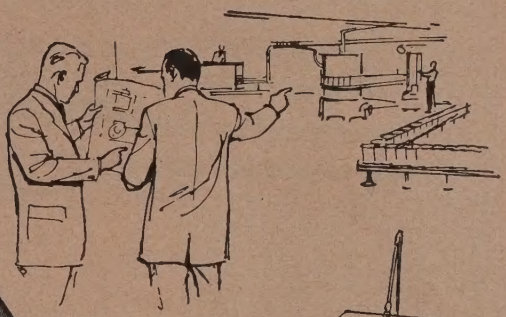

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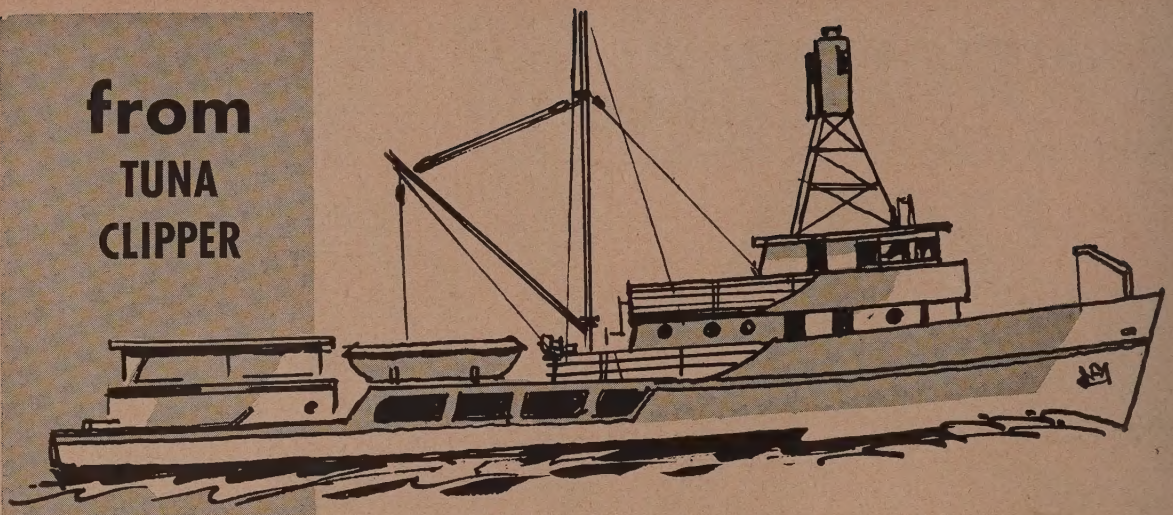

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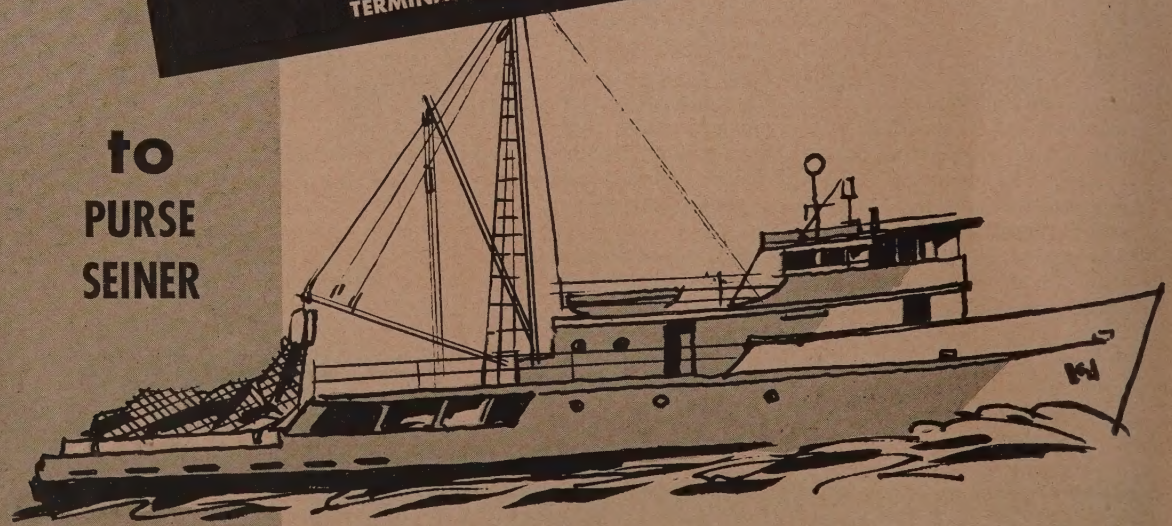


PACIFIC FISHERMAN FEBRUARY 1960

PROBLEMS FOR GENEVA 1960 —

Security Sovereignty Fisheries

● Serious study of the implications in the Law of the Sea Conference at which most of the nations of the world will sit down in Geneva in March was concerning fishermen from the four corners of the United States as the date approached—was concerning fishermen from the four quarters of the world, for all of that.

Out of Geneva may come determinations which will shape, or re-shape, the pattern of ocean fisheries for generations to come.

Departure from the long-standing doctrine of the narrow territorial sea may result. Some thoughtful men believe some such departure is almost certain. They note a modification, for example, of the United States' apparent attitude; and the tendency of the Canadian and American viewpoints to draw more closely into a common focus.

At Geneva there are sure to be three distinct positions.

1. Nations whose fleets range most-widely favor the narrowest seaward extension of territorial waters of coastal states.

2. Countries concerned primarily with the fisheries in sea closely contiguous to their coasts seek exclusive rights therein for their own fishermen, and thus favor sovereignty over a broad belt of ocean beyond the limits of their land.

3. And there is a third trend in thinking which maintains that under certain circumstances privileges may be *earned* beyond the narrow limits of the territorial sea. Such circumstances include: long-established fishery in waters which during that period were high seas; conservation of species which, propagated, reared and protected in interior or coastal waters of a state, in a period of their life history pass into international waters; long-practiced conservation based on scientific study, whose findings are employed in the administration of sustained-yield fishing for a fully-exploited species.

● Geneva, its problems and implications, were discussed with industry representatives and officials of the Pacific states, except Hawaii, at Seattle late in January by W. C. Herrington, special assistant for fisheries and wildlife in the Department of State.

C. L. Anderson, Alaska director of fish and game; Milo Moore, Washington director of fisheries; A. M. Day, Oregon Fish Commission director; and Richard Croker, California chief of marine fisheries, represented the states.

● Following the meeting it became known that Harold E. Lokken, manager of the Fishing Vessel Owners Association, and John Wedin, manager of the Northwest Trawlers' Association and the Fishermen's Marketing Association of Washington will be Pacific Northwest members of the advisory group of the American delegation. Beside being spokesman for the halibut industry, Mr. Lokken will speak as well for American salmon trollers and other elements of the American salmon industry. Mr. Wedin's particular interest is in the field of Pacific trawling.

Other advisors to the American delegation at presstime were expected to be: Dr. W. M. Chapman, Tuna Research Institute; James Barr and William Neblett, representing the American shrimp industry; George Steele, director of the Fish Products Division of the National Canners Association; and Thomas D. Rice, manager, Massachusetts Fisheries Association.

Likelihood that there would be additional members was seen in the fact that Governor Albert D. Rosellini of Washington was considering dispatch of a representative to advise and observe; and that Senator Warren G. Magnuson of Washington was asking the Senate Committee on Interstate and Foreign Commerce, of which he is chairman, to arrange for a Senate observer to attend the conference.

Senate ratification of any Law of the Sea treaty which might emerge from the conference would be necessary before the pact would be binding upon the United States, and Senator Magnuson believes his committee will wish to be well informed on the reasons for and effect of any treaty which may issue from Geneva.

U.K. Trawlers Argue in B.C. In Support of 3-Mile Limit

• Two British trawler operators flew all night from the United Kingdom to Vancouver, B. C., and after spending a January day arguing against Canada's proposal for a 12-mile limit to territorial waters flew back to make what seemed sure to be a somewhat negative report.

They were Josh Cobley, vice president of the British Trawlers Federation, Grimsby, and Tom Boyd, president of the Hull Fishing Vessel Owners Association. Their organizations represent many millions of pounds invested in Britain's offshore fishing industry.

In Vancouver they conferred with James Sinclair, president of the Fisheries Association of B. C., and other prominent figures in the industry, and representatives of the federal government. Mr. Sinclair, when federal minister of fisheries, actively supported extension of the territorial limit. There have been various suggested compromises, but Canada's external affairs minister, Howard Green, has announced that Canada will make definite recommendations before the United Nations.

A hard-and-fast 12-mile territorial limit would destroy Britain's historic fishing rights in waters adjacent to the Faroe Islands, Iceland, Norway and the White Sea, according to Mr. Cobley and Mr. Boyd. They admitted, however, that they might go along with a proposed modification to six miles, but only with reluctance.

"We don't intend to surrender our traditional rights without fighting for them," said Mr. Cobley. "We don't want a quarrel with our friends in Iceland or elsewhere, but we believe that our historic rights should be respected."

Mr. Boyd has played a distinguished part in the British fishing industry's development of a modern postwar trawler fleet. In addition to his other duties, he is president of the Boyd Linem which has ten deepsea diesel trawlers costing about $1,000,000 each. He is also managing director of the Lord Line, operators of 22 trawlers. He won the D.S.O. (Distinguished Service Order) for gallantry while commanding a mine layer during the commando raid on St. Nazaire.

"How the proposed limit extension off the B. C. coast would affect U. S. and other non-Canadian fishermen is uncertain. It will certainly restrict some operations, but much will depend on whether the limits are fixed by base lines or headlands (point to point). Some fishing in Hecate Strait and dragging off the west coast of Vancouver Island seem most likely to be affected," said an experienced British Columbian at the end of January.

Union Fishermen's Co-op Control Sold to Nick Bez

• Surprise is common in salmon canning, but not often is it as complete as that produced by Nick Bez's January acquisition of controlling interest in the Union Fishermen's Cooperative Packing Co., Astoria, Ore.

Thus one of the oldest and most venerable companies in the business passes into the hands of one of its most notable individual operators.

Founded in 1896, the Union Fishermen's Cooperative Packing Co. was 17 years old when Nick Bez fished briefly as a gillnetter on the Columbia River in 1913. He later went to Puget Sound and Alaska as a fisherman, formed the Todd Packing Co., and then entered the airline business in Alaska. Currently he is president of the West Coast Airlines and of the P. E. Harris Co., one of the ranking factors in Alaska salmon canning.

Mr. Bez, in association with Transamerica Corporation acquired control of the Columbia River Packers Association, Inc., in 1946 and served as its chairman until 1951, when he disposed of his interest to Transamerica.

• Beyond announcing that management and personnel of the Union Fishermen's Cooperative Packing Co. would remain unchanged, Mr. Bez would make no statement as to his plans for the company. President of the company is Carl O. Moberg, and its general manager is Rolf Ostrem.

Stockholders in the company are said to have received $200 per share, of which there are 1,400 shares outstanding. Mr. Bez is known to have held control before the middle of January.

Despite its name, the Union Fishermen's Cooperative Packing Co. is not, and never has been, an actual cooperative. It was formed 63 years ago by a group of gillnet fishermen, largely of Finnish origin, who decided they would can their own salmon.

The plant is primarily a salmon cannery, but includes as well tuna canning facilities and sharp freezers and cold storage. At one time it also maintained an active fillet operation.

Walter T. Shannon, newly appointed director, California Department of Fish and Game.

Career Man Heads Calif. Fish & Game

A career man, 24 years an employe of the department, in January became director of the California Department of Fish and Game. He is Walter T. Shannon, appointed by Governor Edmond G. Brown to succeed William E. Warne, shifted to director of the Department of Agriculture.

Mr. Shannon has served as deputy director of the department since 1952 under Mr. Warne and his predecessor, Director Seth Gordon. His previous lines of duty ran through the patrol division as warden captain and assistant chief of patrol.

Three New Seiners

Harold Hansen Boat Co., Seattle, is building a 54' by 16' seiner to be powered with a 190-hp Waukesha diesel. The hull at this writing has been decked and partly planked.

Jacobsen Boat Co., Seattle, is now building two 52' seiners, with 15'3" beam. Engine make was not reported at this writing.

Tuna Seiners Reap Bonanza in January

● The tuna purse seiner fleet late last month hit a jackpot that almost certainly will make January, 1960, the biggest January in the history of Southern California tuna fishing.

Off the Isthmus of Tehuantepec and thereabouts, the net boats were catching a Bonanza of almost straight Yellowfin. By the third week of the month, 15 boats were on their way home loaded, bringing home an estimated fares aggregating about 2800 tons of fish. Some of the biggest converted clippers were in the fleet, bringing the total catch up to high tonnage.

And more boats were on their way to the fishing grounds, again including some of the big seiners made over from clippers.

Although the ex-vessel price for Yellowfin is lower this year than last —about $250 at this date—the fishermen will make a good trip average return, because their loads are almost entirely Yellowfin, whereas usually they are mixed Yellowfin and Skipjack, Skipjack usually selling for $30 less than Yellowfin.

● January trips were generally short for the seiners. Most boats had been out two weeks or less before they hit the fish, and the total trip should not be more than three weeks in many cases. A full load of Yellowfin in three-weeks' fishing adds up to a profitable month's operation.

The Market News Report of the Bureau of Commercial Fisheries estimated that the January, 1960, catch by the net boats would be somewhere around 3,500 tons, by far the best January the fleet has ever had. The seiners' catch for January 1959, by comparison, was 307 tons, and January 1958 produced only 804 tons for the net boats.

● Unfortunately, the clipper fleet was having rough going. Up to January 9 the bait boats had delivered only 696 tons, as compared with 1873 for the same period last year, and 3280 for 1958, according to the Market News Report. There were no reports of any late-January bonanza such as the seiners had hit.

Although, as everybody knows only too well, anything can happen in 11 months, it is not beyond probability that 1960 will be the first year in which net boats may catch more tuna than clippers. The January trend certainly points in that direction.

Inevitably, the success of the big converted clippers is stimulating talk about more and more conversions. During January the *American Boy*, converted by Fellows & Stewart of Terminal Island, made her first trip; the *Sun Europa* was being finished up in the same yard; the *West Point* made her test trip from Harbor Boat & Yacht Co., San Diego, converted into a net boat. Altogether, more than 20 clippers have become seiners in the two years or so since the *Sun King* was changed over.

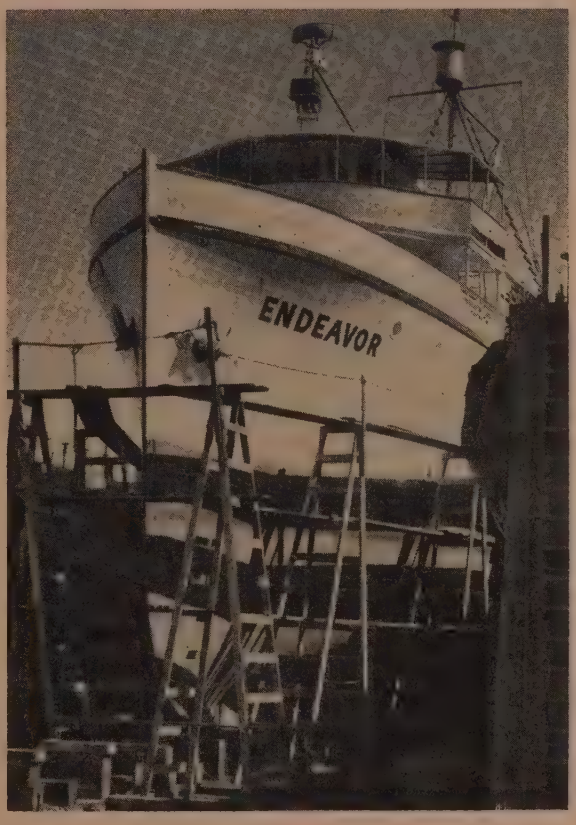
The *Sun King*, incidentally, had a record season fishing in South American waters; and the *Sun Jason*, now the biggest seiner claiming a home port in South America, was also reported as having done.

● Imports of foreign frozen tuna were down substantially for the first few days of 1960 under the corresponding periods for 1959 and '58. Although figures for such a short period are not very significant, 1960 imports were only 672 tons, according to the Bureau of Commercial Fisheries' Market News Report, as against 2051 for the same few days of 1959, and 2289 for 1958.

There were stabilizing forces at work in the Japanese fisheries during the last days of 1959 and into January 1960.

The summer Albacore catch, which in 1958 was only half the normal of around 40,000 metric tons, in 1959 was even worse, producing only about 10,000 tons, according to Japanese publications. This shortage of fish kept Japanese demands steady, and had a deterring effect on exports of Albacore to the U. S.

At the same time, according to Japanese sources, the market for fish-sausage and similar products made from Skipjack experienced a boom in Japan, increasing a comparatively new market for Japanese-caught Skipjack.



Clipper Maintenance Costs Money
Here's 143' of tuna clipper, the great **Endeavor,** owned by The Ambrose Co., headed by W. Wade Ambrose, on drydock at Campbell Machine Co., San Diego, for replacement of brine refrigeration equipment.

Japan Winter Albacore Fishery Late Starting

Winter Albacore fishing in the offing of the Japanese islands has been late in starting this season, but January saw it well under way. Although fishing has been only fair to the middle of January, a total of about 1,500 metric tons had been landed by that time.

Live bait and local longliners were landing their catches at such ports as Kenennume, Iishinomaki, Onagawa, Nakaminato, Katsuura, Shimizu and Yaizu, while Misaki is the principal port for the Albacore delivered in increasing tonnage by the longline clippers working the South Pacific and Indian Oceans.

The short-range Albacorers found their fishing ground around 144° East Longitude and 36°30′ North Latitude for live bait fishing.

Fish being delivered by the live bait boats is averaging about 36 lbs., and is mostly canned in Japan; while the longline fish, running to larger size, is about evenly divided between canning and freezing for export.

The landed price was reported steady in late January at 120-140 per kilo, roughly 16¢ per lb.

P.A.F. Earns More Despite Small Pack

Increased earnings will be reported by Pacific American Fisheries, Inc., for its fiscal year ending with February, despite the smallest pack in 50 years of company history.

So S. G. Tarrant, president, told stockholders in January. He said that the P.A.F. share of the Alaska pack would be 228,327 full cases, approximately 12.9% of the state's total. He continued:

"In spite of the elimination of fish traps, poor runs and other adverse circumstances, Pacific American Fisheries seems to have demnostrated its capacity to make its northern operations fit changing conditions and still maintain its position in the industry by obtaining its customary proportion of the available catch."

Canada's Fisheries Council To Meet in Vancouver

Annual meeting of the Fisheries Council of Canada will be held this year in Vancouver, B.C., April 25-27.

R. T. Hager, president of Canadian Fishing Co., is president of the Council.

This is the first time in several years that the Council has held its sessions on the Pacific coast. Arrangements are being made for delegates to visit some of the B.C. operations.

A Pioneering Prediction . . .

● On an adjoining page, under the staid scientific title "Oceanography and the Hawaiian Skipjack Fishery," this journal is proud to offer an article of more than usual significance on a subject of more than usual interest.

It is a careful, even cautious, account of a successful prediction of Skipjack tuna abundance in mid-Pacific.

Oceanic Skipjack are notable for their vagaries, and hitherto have evaded the gropings of forecasters.

Last spring in California Vernon E. Brock, area director in Hawaii for the U. S. Bureau of Commercial Fisheries, risked before the industry advisory committee of the Bureau's work in Hawaii a prediction that, after two disastrous years, the "season" Oceanic Skipjack run of 1960 adjacent to Hawaii would provide the best catch in years.

Time proved his forecast true.

The accompanying article by Gunter R. Seckel, oceanographer, and Kenneth D. Waldron, fishery research biologist, U. S. B. C. F. Honolulu Biological Laboratory, details with the restraint of scientists writing for publication the basis for this pioneering prediction.

American Can Building New Plant at Astoria

● American Can Co. this spring is building a modern point-of-use can manufacturing plant at Astoria, Ore., which by next year will be producing cans at an annual rate of around 100 million.

The plant is being built on the Columbia River waterfront immediately east of the great Elmore Cannery of the Columbia River Packers Association, whose can requirements are believed to be greater than any fish packing plant on the Pacific Coast of North America north of Los Angeles.

The plant will occupy a tract of about 1/5 acres and will have direct rail connection as well as access to the Columbia River's deep water channel. It will be only a short distance from the Port of Astoria terminals and will be able to serve by truck or boat the plants of the Union Fishermen's Cooperative Packing Co., Barbey Packing Corporation, Point Adams Packing Co., Chinook Packing Co., Seaside Clam Co., Pacific Shrimp, Inc., Keystone Packing Co., San Juan Fishing & Packing Co., and others of the Columbia River area.

● American Can Co. will be building its third Oregon manufacturing plant in recent years, as in 1956 it opened one at Salem, and currently has a plant at Eugene under construction. Can manufacture at the company's plant in Portland was discontinued recently.

Operations of the three Oregon can factories of Canco will be in charge of A. K. Frederick, now in charge at Salem.

Return of the American Can Co. operations to Astoria have an interesting historical angle, as it operated a factory there for a number of years early in the history of the corporation in its present form. In 1901 the newly-formed American Can Co. bought the Astoria plant of Pacific Can Co. and ran it for a number of years before moving it to Portland.

It is interesting also that the sanitary can was introduced to the salmon canning industry at Astoria, where an American Can Co. installation at the Sanborn-Cutting Co. cannery in 1912 was used to demonstrate the new container to the industry.

Arnold Is Negotiating For Several Canners

W. C. Arnold, formerly managing director of the late Alaska Salmon Industry, Inc., announced at the end of January that he had definitely decided to enter the private practice of law in Anchorage, Alaska. He will open an office there in the spring.

In the meantime, he is engaged temporarily in conducting negotiations with the unions involved in salmon canning, representing several of the larger companies in the industry.

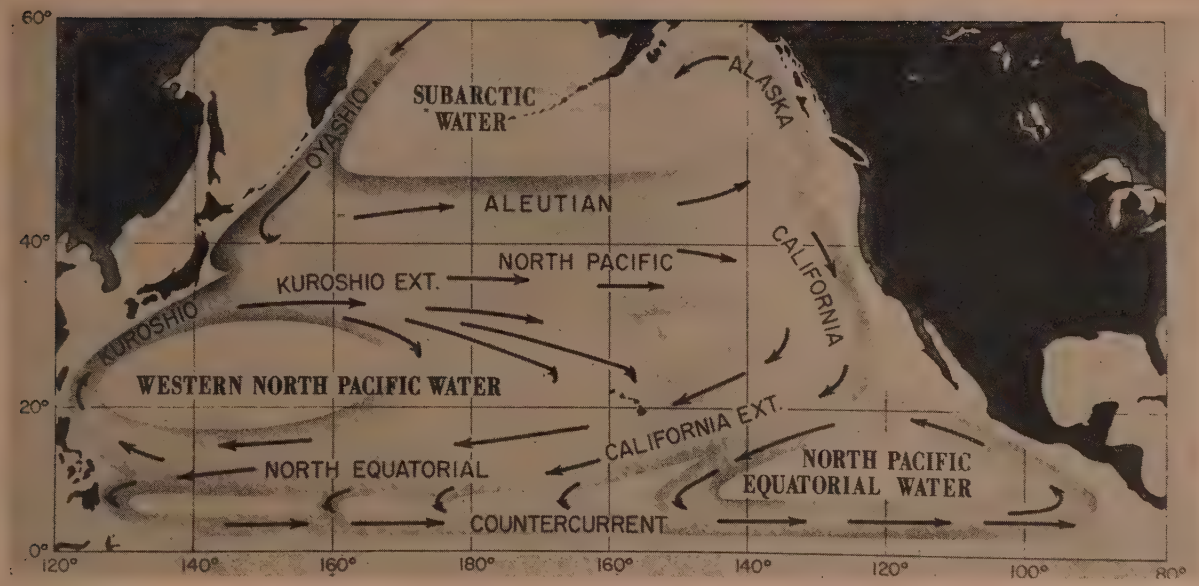


Figure 1.—The major surface current systems in the North Pacific Ocean.

OCEANOGRAPHY and the HAWAIIAN SKIPJACK FISHERY

H. B. L. PUBLICATION — COPIES FOR DISTRIBUTION

By
GUNTER H. SECKEL
and
KENNETH D. WALDRON

● In March, 1959, the prediction was made to the tuna industry that the 1959 Hawaiian Skipjack season would be better than average and that the catch might approach the 14 million pounds landed in 1954. Actual 1959 landings of 13 million pounds substantiated the forecast.

This prediction was a by-product of an environmental study in which certain processes in the ocean were discovered to be associated with variations in Skipjack landings. The highlights of the investigation and some of the implications will be discussed below.

Annual Skipjack catches from Hawaiian waters since 1948 have varied between 6 million pounds in 1957 and 14 million pounds in 1954. The landings are seasonal with monthly catches of less than 100,000 pounds during the winter and over 2,500,000 pounds during the summer.

Small Skipjack are present in island waters throughout the year, but the success of the summer season depends upon a high availability of 20-30 pound fish. The fluctuations in landings since 1948 appear to have been due largely to the unexplained variations in availability of these large fish.

The fishery is conducted within a relatively restricted area, which seldom extends beyond 100 miles from land. This contributes to the variations in landings, for low catches in local waters are not balanced by catches from surrounding areas, as is the case in other fisheries. Because the fleet does not range widely, fluctuations in landings are thought to reflect changes in the availability of Skipjack in Hawaiian waters.

The Hawaiian Skipjack fleet has undergone only one recent major change in numbers, and this was a result of two successive poor years, 1957 and 1958. The fleet that fished during 1956 consisted of 28 boats. Only 21 of these fished during 1959, a reduction of 25 percent. During this same period, effort was reduced still further by fishermen leaving the industry. In light of this reduction in effort, the successful 1959 prediction is even more significant.

The seasonal and annual variations in Skipjack landings are a source of economic hardship for both the fishermen and the processors. It is therefore important to investigate the causes, and if possible, predict these fluctuations in advance of the fishing season.

● In the belief that fluctuations in the fishery were associated with changes in the environment, an oceanographic study was initiated. This showed that the Hawaiian Islands are located in the vicinity of a boundary separating two water types, as schematically illustrated in Figure 1. To the north and west is the western North Pacific type, with a salinity of more than 35 parts per thousand (3.5 per cent). To the south and east is the transition type of the California Current Extension, with a salinity of approximately 34.7 parts per thousand (3.47 per cent). It was found that this boundary, which is located just south of the islands during the winter months, begins to move northward early in the year. It passes through the islands in

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NOTE—Mr. Seckel is Oceanographer and Mr. Waldron Fishery Research Biologist on the staff of the Honolulu Biological Laboratory, U. S. Bureau of Commercial Fisheries, Honolulu, Hawaii.

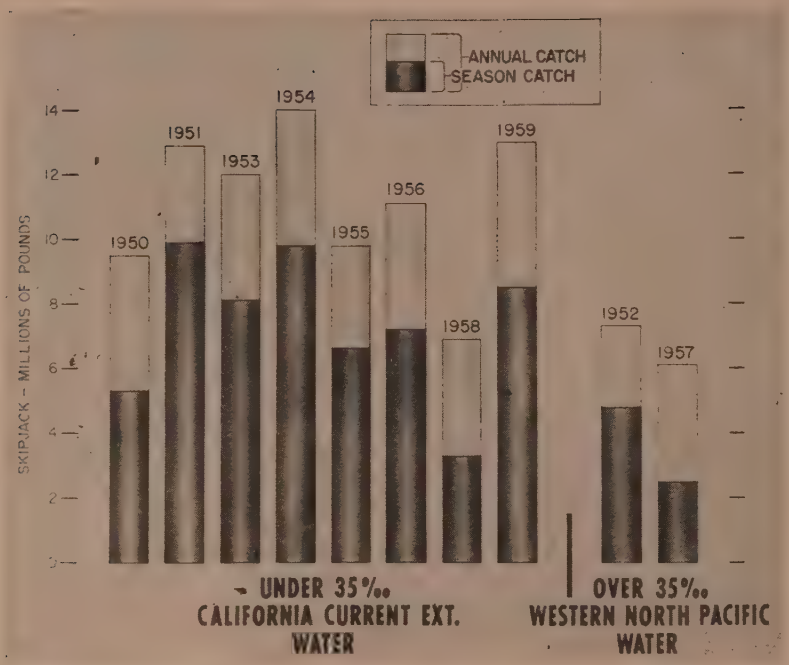


Figure 2.—Hawaiian Skipjack landings as related to the summer salinity of the ocean near Oahu.

April or May and brings the lower salinity water of the California Current Extension. This process is reversed in August, when the boundary begins its southward retreat. It then passes the islands in October or November and brings the high salinity water of the western North Pacific.

The spring movement of the boundary, bringing California Current Extension water into the island area, appears to be associated with the success of the Hawaiian skipjack fishery, as illustrated in Figure 2. Whenever California Current Extension water bathes the islands during the summer, as indicated by salinities of less 35 parts per thousand, the annual Skipjack landings have, with the exception of 1958[1], been average or better than average. Whenever the salinities were higher than 35 parts per thousand, as in 1952 and 1957, the annual landings were less than average.

From these results one can postulate that commercial quantities of Skipjack appear in the island area together with the California Current Extension. One can also postulate that there are years in which the California Current System fails to intensify sufficiently to move the boundary into and through the island area. During such years fishing is likely to be poor.

● These ideas about the association between fishing success and oceanography in the Hawaiian Islands as obtained from salinity observations, are also supported by temperature studies. Early and rapid warming of the water near the island of Oahu, as the boundary begins to move northward, appears to be associated with a well developed California Current System. This is usually followed by a decrease in the rate of warming, or even a slight cooling as the boundary passes through the islands. These features were most pronounced in 1954 and 1959, the best postwar fishing years with landings of 14,000,000 and 13,000,000 pounds, respectively.

Of particular interest to the fishing industry is the early warming of the water prior to the fishing season and the fact that this can be monitored by observing surface water temperature. The upper panel of Figure 3 shows that at Koko Head, Oahu, the temperature reaches a minimum during the end of February. It can also be seen that when the water begins to warm the temperature does not rise uniformly. From March to April it rises .4°C., from April to May .3°C., from May to June it rises almost 1°C.

These features become more apparent if one draws the monthly rate of change of temperature as shown in the lower panel of figure 3. Here, when the curve is zero at the end of February, the minimum temperature has been reached and warming begins. This means that the boundary between the western North Pacific and the California Current Extension types of water is beginning to move northward. One also notes that the rate of warming decreases from .4°C. at the beginning of April to .3°C. at the beginning of May. This signals the time when the boundary moves through the island area. Using sea water temperatures from the Koko Head station, therefore, one can detect the beginning of the northward movement of the boundary even though it is located to the south of the islands.

In Figure 4 we see that the time of the northward movement of the boundary is related to the annual Skipjack landings. Whenever this occurred in February, which implies a well developed California Current System, average or better than average fishing years occurred. Northward movement of the boundary beginning in March, which implies a weak California Current System, was associated with low annual landings.

● The results of this investigation indicate that both the seasonal and annual variations in the occurrence of Skipjack within the island region are indeed associated with environmental changes. As yet, however, we do not know what environmental factors directly influence Skipjack movements. Our lack of knowledge of these factors constitutes an element of uncer-

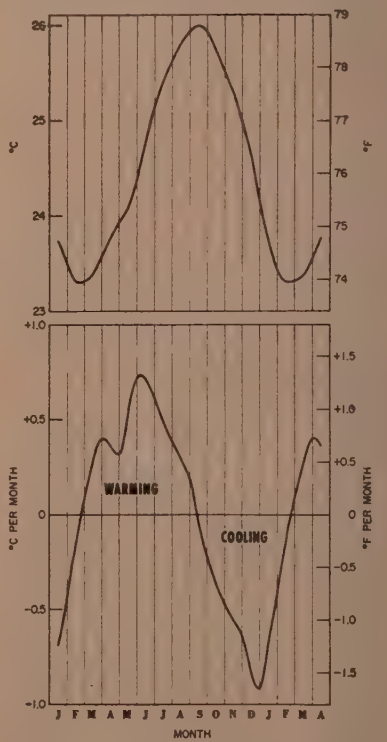


Figure 3.—Average sea water temperatures at Koko Head, Oahu—upper panel. Average monthly rate of change of temperature at Koko Head, Oahu—lower panel.

[1]In 1958 the minimum summer salinity of 34.9 parts per thousand resembled the western North Pacific water more closely than the 34.7 parts per thousand of the California Current Extension.

tainty in the prediction. This is knowledge we must have if we are to fully understand the relationship and thus reliably predict the degree of availability of Skipjack in the Hawaiian Islands area during the fishing season.

Several years ago an attempt was made to predict the season (May to August) catch on the basis of the strength of the trade winds earlier in the year. The prediction showed promise, but then failed, probably because the trade winds are only one factor in the circulation of the North Pacific. Similarly, a well or poorly developed California Current System may not always be preceded by the temperature changes noted at Koko Head during the past nine years.

It should be pointed out that the predictive relationship is between changes in the physical environment and landings made later in the year. No consideration is given to changes in the magnitude of the Skipjack stocks on which the Hawaiian fishery is based. The fact that an excellent relationship obtains might indicate that changes in the magnitude of Hawaiian Skipjack stocks from such causes as small year-classes or varying amounts of harvest by the fishermen are not of major importance. If the physical environment is of favorable character, Skipjack should be plentiful in the Hawaiian area. If the environment is unfavorable, few Skipjack of the size usually associated with a good season will appear in the island waters.

The true value in this investigation does not primarily lie in the discovery of a prediction index but in gaining understanding both of the Skipjack and of the processes in their physical environment. By continuing this approach, we hope to eventually know what factors are responsible for the concentration of Skipjack when the island area is bathed in California Current Extension water.

While the recognition of an apparent association between certain environmental features and the success of the Skipjack fishery was not an entirely unexpected result, it is to be doubted that such a prediction would have been obtained had the investigation been conceived with this as its primary goal. It was designed primarily to help us understand the local oceanographic climate. It may be anticipated that this understanding, when strengthened and extended by future investigations, will find usefulness in other areas, thereby accelerating the fruitful application of science to fisheries on a broad basis.

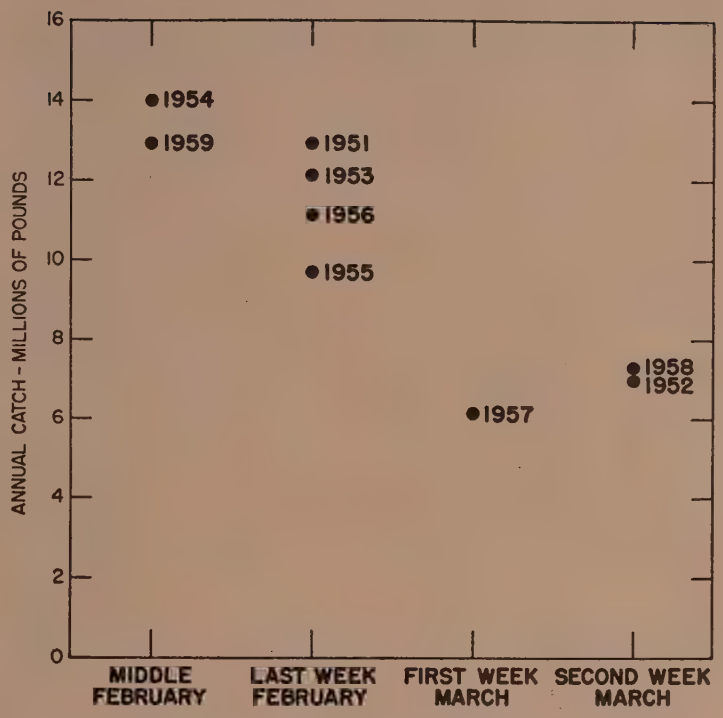


Figure 4. — Hawaiian Skipjack landings as related to the time of spring warming of the ocean at Koko Head, Oahu.

"Conservation is Responsibility Of Every Alaska Salmon Canner"

—J. Steele Culbertson

● "Every Alaska salmon canner has a responsibility for conservation in the area of his operations, and broadly throughout the range of the resource.

"It is as important for you packers not to catch too many fish as it is to catch *enough*.

"One of the significant causes of the present unhappy condition of the Alaska fishery resource has been failure of many operators to accept responsibility for conservation, to apply it to their own activities, and to encourage it in others."

● Speaker was J. Steele Culbertson, assistant manager since 1946 of the late Alaska Salmon Industry, Inc. He was speaking before the Northwest Salmon Canners Association in Seattle in mid-January as he was leaving for Washington, D.C., where he is now director of the Industrial Products Division of the National Fisheries Institute.

Mr. Culbertson spoke from long and intimate acquaintance with the Alaska fisheries, having served the Bureau of Fisheries and U.S. Fish and Wildlife Service for 15 years before joining the Alaska Salmon Industry.

"Joe" Whitmore Retiring As Canadian Director

A. J. Whitmore, director, Pacific Area, Canadian Department of Fisheries, will retire August 14, terminating 43 years of service to Canada and its fishery resources; and particularly those of the Pacific.

He joined the Department of Fisheries in 1917 and served 12 years as assistant to Major Motherwell, chief supervisor of fisheries for Western Canada. He was then transferred to Ottawa, where for 18 years he was the Department's Director of Western Fisheries in the national capital. During this period he served on the International Pacific Halibut Commission from 1935 to 1946.

Mr. Whitmore succeeded Major Motherwell as Pacific Area Director in 1946, and it is from this position that he is retiring.

He has been a member of the International Pacific Salmon Fisheries Commission since 1939.

Those in good position to weigh men by their works rank him as outstanding among fisheries administrators.

More New Gillnetters . . . . . Over 60 on Order Now

● Signed orders for at least 60 new gillnet boats are now in the hands of boatbuilders in the Puget Sound area. The number is likely to increase before the end of the boatbuilding season, since these 60 are only those for earliest delivery, and the builders report other prospects.

The boats are replacements, in the main, for vessels which have worn themselves out in the rugged operation of the large fleets in Bristol Bay and elsewhere. The builders' opinions generally concur that these vessels are the beginnings of a "replacement fleet" which must be constructed in coming years. Many gillnet vessels are approaching the end of their service lives, begun in the small construction boom early in the past decade when they were turned out by the hundreds each year to convert Bristol Bay from sail to power.

● The bulk of currently-reported sales are by Bryant's Marina of Seattle, which is supplying 20 to Pacific American Fisheries, 10 to New England Fish Co., and six to Queen Fisheries, at this writing, plus from one to five of the boats in smaller lots—at least 37 vessels and probably over 40.

A new non-tunnel version, or skeg type, these boats are termed the Bryant "Super Highliner" and are 32' by 10'9". The majority on order have 177-h.p. Chrysler "Sea-Vee" gasoline engines from NC Marine, Seattle. Two at least are to have 165-h.p. Graymarines from Apex Marine & Equipment Inc., Seattle.

These are mainly two-man boats; several will be radio-equipped; other items in most of the outfits include power rollers, Olympic oil stoves, Danovich mufflers for the engines, 1⅜" Tempalloy shafts in B-J rubber bearings, and Michigan 20x16" propellers. There are of course several variations from this.

● Another Seattle firm which has orders for gillnet boats is Commercial Marine Construction Co., where a series of 15 conventional Bristol Bay gillnetters are under construction. The purchasers are American Packing Co., Alaska Native Service, Queen Fisheries, Red Salmon Inc., and individual fishermen. These are 32' by 10'4"; nine of them are to have Chrysler "Sea-Vees" from NC Marine; five have 65-h.p. Ford diesels and one a 100-h.p. Ford, from Pacific Fishing & Trading. They'll carry power rollers of Marco or Clatskanie design.

Builder Ron Rawson, showing the mould for the hull of the glass gillnetter, comments that another feature sought in its design is ability of boat to beach safely without swamping. This is a particularly important point for Bristol Bay, where boats as well as men have been lost on shoals so often.

. . . and PLASTIC Gillnetters are Among the 60-odd

● A new Seattle firm is preparing to build a series of at least six plastic gillnet boats this season, for April 15 delivery. Ron Rawson, Inc. has leased facilities at Maritime Shipyards for the productoin of these vessels as well as a series of 30' sailboats, 14 of the latter making a total of 20 hulls built in the first season of operation.

The gillnetter hull is designed by Edwin Monk, Seattle naval architect, and is illustrated here. Its basic dimensions are 32'x10½', with expected carrying capacity of 4,000 fish and draft of 26". With a 175-h.p. Chrysler "Sea-Vee" it is expected to make 20 knots, using a 21x16" Olympic propeller.

The female mold for the glass hull (see illustration) has been built and production is to start soon. A great deal of interest has been shown in this preliminary work, reports Ron Rawson, particularly in the hull thickness, which varies from a minimum of ⅜" to ½" or ¾". The interior will be wood; only the hull, deck, and cabin are of fiberglass, including built-in guards and a built-in recess, portside of the keel, for the heat exchanger, thus housed to prevent hanging-up of net and minimize water resistance.

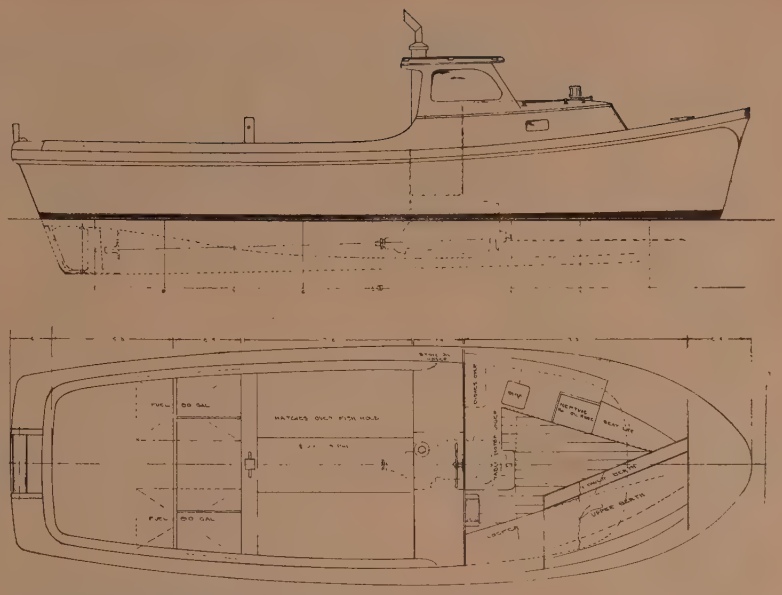
Mr. Rawson, formerly a research and development chemist with Richhold Chemicals, Inc., has been affiliated with Marine Fiberglass & Plastics, another Seattle firm specializing in smaller boats. Are these larger glass hulls difficult to produce? Not so, says Rawson — the big boats, when properly set up, have *fewer* production problems.

His foreman in this operation is Royal Lescher, himself a former gill-

net fisherman and shipwright with long experience in and on these craft. Gillnetters were a prime objective when they set up this new firm; Rawson approached the engineering aspects of the problem and Lescher those of the operating fisherman.

They wanted to build a hull with these characteristics: a bow that would take the sea well; a stern that would lift enough fish; a transom with enough rake to prevent hanging up the nets; a cabin with enough slope so as not to take heavy seas aboard, and other characteristics.

They approached Edwin Monk with these general specifications and Lescher's ideas on hull lines. It was Mr. Monk's task to check them for architectural soundness, add his own proved ideas on hull form and layout. The result is now taking shape and already has attracted local attention. There will be even more interest in the completed craft, and still more in the operating characteristics and service life of the first models.



● Foss Boat Shop, at Eagledale, Wash., is building two 32′ by 11′ standard gillnetters for Arctic Maid Fisheries, and has another similar hull under construction for combination fishing. These are all for April delivery and Cecil Foss reports, as do other boatbuilders, that there have been further inquiries, more than usual at this early date, for the construction of gillnetters.

The total number of 1960 gillnetters built may eventually approach 100, because not all yards have been contacted and many of those who were interviewed reported live prospects for the sale of additional craft.

13 Cooperative Herring Seiners Active in B.C. Fishery in Late Winter

● As a result of the shutdown of most of the reduction plants in British Columbia due to over-production and adverse markets, the only herring fishermen active early this year were members of the Prince Rupert Fishermen's Co-operative, manning 13 seine boats.

As members of the co-operative, they are co-owners of their own processing plant and marketing organization with hundreds of other fishermen and therefore are masters of their own destiny.

Their method of pooling their fish, processing and marketing it is different from that followed by other herring fishermen in B. C., who sell to privately owned companies at a guaranteed floor price negotiated between these companies and the United Fishermen and Allied Workers' Union.

By the co-operative method, crew members and skippers alike are members of the association, which is controlled by the principle of one member, one vote. By decision of their own meeting, these fishermen decided to continue fishing despite the critical market conditions now facing the herring industry.

At the time the fish is landed, co-operative fishermen receive an advance payment. This advance is divided between the crew members and the boat owners according to the share agreement signed between the union and the Vessel Owners Association. By Dec. 1, 1960, any additional money on hand after all stocks of meal and oil have been sold and all expenses paid, is then distributed to the co-operative herring fishermen as a final settlement.

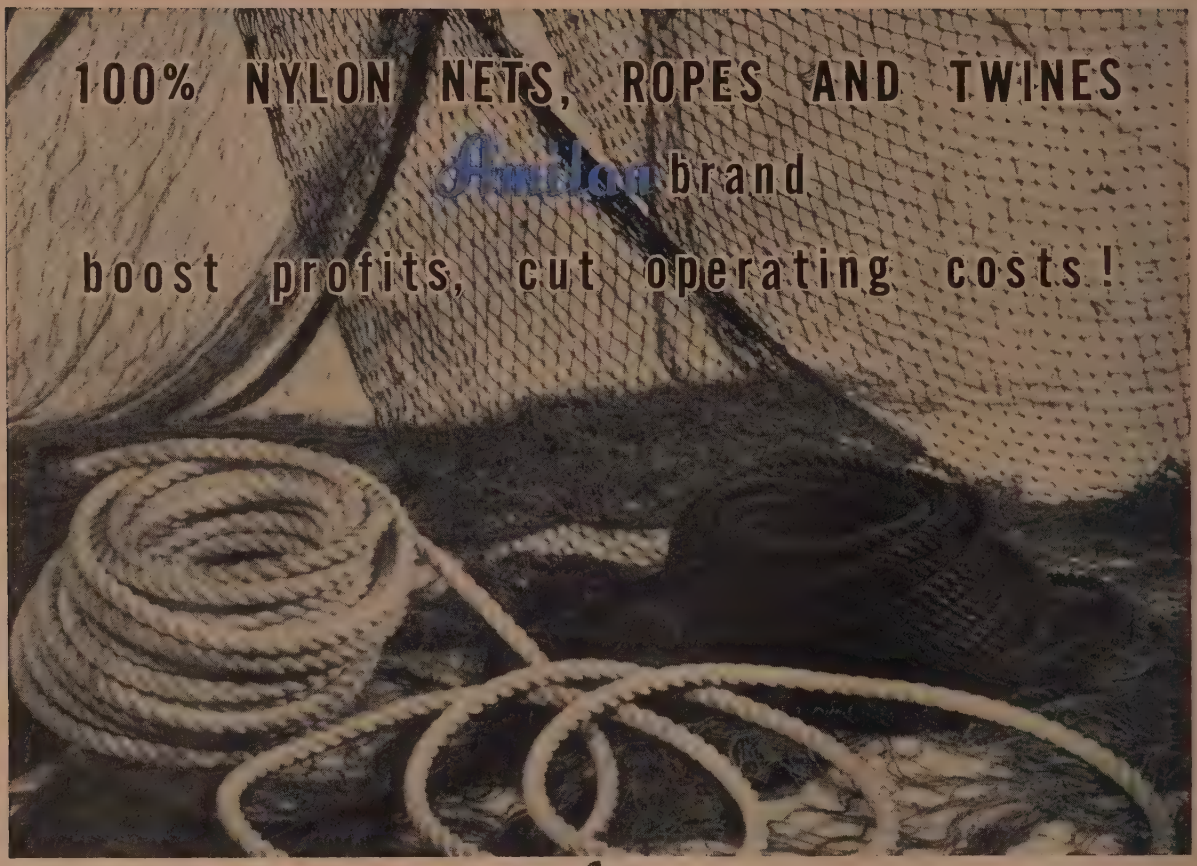
The sharp reduction in the market value of both oil and meal caused the board of directors of the co-operative to recommend to the herring membership at their meetings on December 28 that a reduction in the advance payment following the Chistmas layup would be necessary, and this was endorsed. At the same time, the membership decided to maintain one pool for the entire winter's operation for settlement purposes. The seine boats are also operating in one fishing pool following the Christmas layup and thus uniting in their fishing efforts on a truly co-operative basis.

● B. C.'s fishing economy will be severely affected by the over-all decline in herring operations because over the years the annual catch has been around 190,000 tons, with some catches ranging as high as 250,000 tons, as a result of careful management by the department of fisheries.

Because of intense world competition, herring is a marginal fishery for the companies, according to the Fisheries Association of B. C. The fishery does, however, help carry some of the overhead of plants and fishing vessels during the time that the salmon and halibut fisheries are inactive, and it provides substantial income for the crews.

The present agreement between companies and the fishermen's union is that the companies provide the boats, nets and operating expenses, and pay the crew $13 a ton if the herring is used in reduction plants, or $16 a ton if it is processed as food. The reduction price was set in June, 1958, following a nine-month herring strike. At that time, according to the association, the price of

(Continued to page 47)



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PACIFIC FISHERMAN'S NEWS
FEBRUARY 1960

Albacore Fishermen Contract For Analysis of Problems by Stanford Research Institute

● Decision to contract with the Stanford Research Institute for a scientific analysis of the American Albacore tuna business, with recommendation for its rehabilitation, was reached at Seattle Jan. 22 by a group of Albacore fishermen meeting under the auspices of the Fishermen's Cooperative Association, an organization of salmon trollers and Albacore fishermen operating all along the Pacific Coast from Kodiak Island to the Coronado Islands south of California.

The undertaking, so far as the fishermen are concerned, was placed in the hands of a five-man committee, all actual, practical boat-owning Albacore fishermen.

Andrew Aronsen, chairman; Arnold Reinholtsen, Clarence Anderson, Stanley Hovik and Lloyd Caster.

The chairman is a halibut vessel owner and skipper who fishes Albacore following the halibut season. The other committee members own salmon trollers with which they fish Albacore during the principal run of that species.

Reviewing the meeting and its decision, Bert B. Johnston, manager of the F. C. A., said:

"The men came to the conclusion that we need an objective, independent study of the Albacore industry and its problems — with a recommendation based upon it — if we are to move effectively toward getting our business back on its feet. They felt the industry must employ competent economic and industrial experts, whose conclusions will be above attack on any grounds of self-interest, bias or misinformation."

● The meeting was attended by Henry Larson as a delegate for the California Commercial Fishermen's Association; and James Cope, representing the Five-Star Ice & Cold Storage of San Diego, whose membership is composed of Albacore fishermen. They were able to assure the Seattle meeting that their Southern California Albacore groups would join in the enterprise.

While the form which the study will take will be determined entirely by the analysts of the Stanford Research Institute, the fishermen's understanding is that the study will delve into details of the industry's raw material, fishing methods, costs, markets, competition, past history, future prospects. On the basis of the findings of its study of these factors, the Institute can be expected to offer recommendations for industry action.

● Stanford Research Institute is related to Stanford University, although not actually a part of its academic organization. It performs research work in a wide variety of fields, from problems such as those of the Albacore industry to those involving atomic energy, sun spots and the speed of light.

While most of its studies are in the field of science, and notably physics, it undertakes commercial, economic and marketing researches as well for industrial groups such as the Albacore fishermen and Pacific clay products manufacturers, and for great corporations, such as the Weyerhaeuser Co.

Six Men Die In 2 January Crab Wrecks

● Hazards of winter crab operations took six lives in two weeks late in January when the *Barbara Lee* foundered on the Grays Harbor bar with two and the 97' tender *Fearless* was beaten to pieces by the fury of the gale off the Cape Chiniak corner of Kodiak Island, killing four men.

Ironically, *Barbara Lee* was undertaking to help the disabled Coast Guard surfboat *Invincible* when she was overwhelmed as for the second time she put a line aboard the surfboat which had put to sea to escort the crabber over the bar.

With her died Robert Bolam of Westport, her skipper, and Ted Sugardson of Graylands. No less heroic than they, Harold Pernula, the third man of the crew, had boarded the *Invincible* to handle lines, and thus was saved when they were lost.

Barbara Lee, a pioneer among modern ocean crabbers, was owned by Roy C. Furfiord of Seattle.

Laden with King crab and running from the productive Alitak fishing area to the cannery at Ouzinkie, Kodiak Island, *Fearless* was destroyed by a gale on the last day of January.

All four of *Fearless*' people died in the wreck. They were: Capt. Orville O. Sandvik, Seattle; Clyde Welcome, Anacortes; Howard Brenner, Bellingham; and Peter Wolkoff Jr., a Kodiak fisherman.

Power Companies Form Association of Biologists

Fish biologists representing electric power companies from six Western states met at Portland General Electric company's employe lodge at Timothy Lake recently and formed an Association of Power Biologists.

The organization, according to its president George Eicher of PGE, will dedicate itself to the promotion of better understanding between hydroelectric power producers and state and federal fish agencies as well as conservation organizations. It will also operate to keep members informed on all new developments in fish protection.

Other aims, Eicher said, include the encouragement of more complete representation by biologists on the staffs of power utilities, the promotion of research into better methods of fish protection and other processes to further the compatability of fish with hydroelectric power development.

Officers of the new organization, besides Eicher, include vice president Berni Leman of Chelan County P.U.D. in Washington and secretary Wendell Smith of Idaho Power company.

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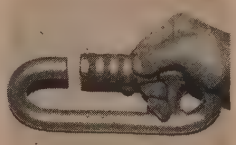
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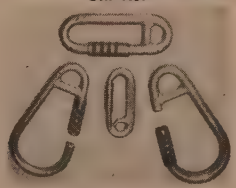
Gill Net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FEBRUARY 1960 Volume 58 Number 3

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FVOA Re-Elect Pedersen Halibut Fleet's Skipper

Capt. Einar Pedersen will continue to skipper the Seattle halibut fleet, having been re-elected president of the Fishing Vessel Owners Association at the annual meeting in January.

Other officers re-elected are Capt. Ole Birkvold, vice president, and Capt. Sig Jaeger, secretary.

Association trustees are: Capts. Arne Einmo, Lars Jangaard, Emil Nilsen and Einar Rice.

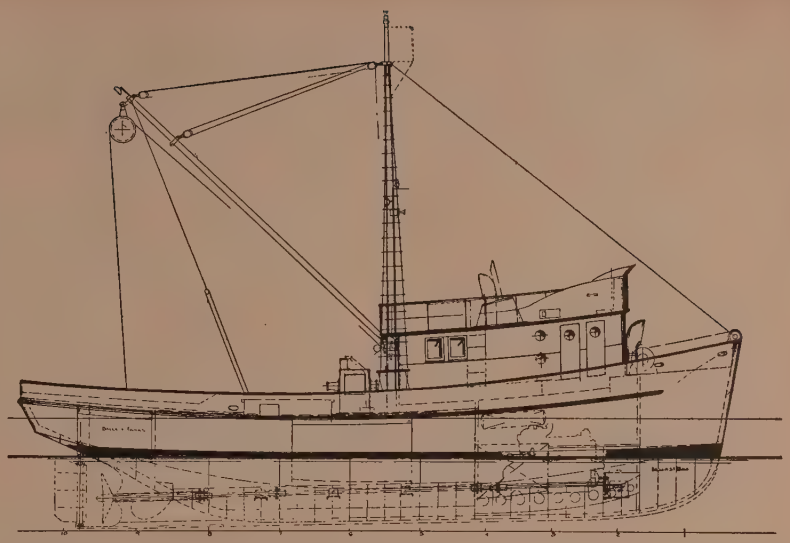
Harold E. Lokken is manager of the association, having filled the post since 1924.

Eric K. Johnson, Veteran Pacific Fisherman, Passes

A veteran of sail, and of the Pacific fisheries from Kodiak to Bonita Islands, Eric Karl Johnson died in San Diego in January at 68. He was buried in Seattle. The last boat he owned was the *Hike II*, with which he trolled salmon and fished Albacore along the entire Pacific Coast.

Mr. Johnson was born in Sweden and as a young man went to sea in sailing vessels, among them the *Star of India* on the run between Australia and the United States. The vessel is now a marine museum at San Diego.

He came to this country to live in 1910, and for 49 years was an active fisherman. He lived in Ketchikan for a number of years. He is survived by his widow, now making her home in Seattle.



Chilean steel seiners to the number of 25 are scheduled to be built by a Santiago firm from design developed by H. C. Hanson, Seattle naval architect.

25 Chilean Seiners Due on Hanson Plans

A fleet of 25 steel purse seiners is scheduled to be built in Chile from a design prepared by H. C. Hanson, Seattle naval architect, for Maestranza Paipu of Santiago, Chile, which expects to move forward in a continuing program of vessel construction for the fisheries of Chile.

The boats are to be used primarily for seining, although Mr. Hanson reports their conversion to other fishing functions could be accomplished with minimum effort. The overall length of the designed hull is 65'; beam 18' and with a full load they will draw 9'. Speed requested is 10 knots, and the engine is to be 240-hp. continuous-rating.

Mr. Hanson, who has designed a number of other Chilean fishery vessels in recent years, expects to visit the builders of these new craft soon to advise on the initial details of construction.

The chief distinction of the design illustrated here is the ability of the craft to utilize an unusually large proportion of hull space for carrying the catch. Crew requirements are not so stringent as commonly accepted on American vessels; the craft will carry its 11-man crew in the deckhouse, and the small area required for quarters there, plus galley and messroom, leaves the forward part of the hull free. Therefore the engine is placed far forward, the long shaft and cargo area being practical in a steel hull where the framing will be longitudinal forward and transverse aft.

Round-chine design, a good flare forward, raked stem, and a fairly fine bow at waterline will make it easy to bring her down extremely low and maintain trim. Further trim under full load can be accomplished because there is a full, wholesome deck throughout the vessel, allowing fish to be slid forward for trim, nearly the full length of the house to the raised deck forward. The loaded waterline is indicated in the sketch.

These vessels are to operate in the warm climate of Northern Chile; therefore the controls are brought to a single station atop the house. Elimination of interior controls conserves deck house space and further cuts the cost.

Since operating distances are fairly short, only 1200 gallons of fuel will normally be carried. Ballast tanks are added aft to trim the ship when running light. Fresh water, 600 gallons, will be carried in a tank above the house, and the gravity flow thus arranged will further reduce the cost.

Similar Hanson design for another series of very similar vessels, to operate in the less temperate climate of Southern Chile, will allow dual controls and other arrangements for the colder weather there.

Mr. Enrique Altamirano, engineer representing the company Maestranza Paipu, traveled to Seattle to consult with Mr. Hanson on the design and to confer with various suppliers.

Mr. Hanson also has been commissioned to design a 65' wooden fishing vessel to be built for fishing in Chile. These plans were under development at presstime for this issue. The vessel will be built for Empresa Pesquera Epervia S.A., and probably will be the forerunner of a fleet of six from the same plans.

A Working Fisherman with almost as much electronic equipment as a destroyer. Capt. Carl Serwold's **Tordenskjold** is fitted with every scientific device which this scientific fisherman feels will help his venerable vessel maintain her position among the high boats in earnings and experience.

Echo-Ranging in Fishing—

The Real Opportunity Lies in the Future

● Echo-ranging, often called *asdic* or *sonar* from its military derivation, appears to bear infinite possibilities of profitable application to fishing—and probably does—but in the decade and more than this electronic equipment has been available for industrial employment on the Pacific it has failed to match the industrial success achieved in fishing by echo-sounding, loran and even radar. In short, the opportunity is still ahead.

Principle employed in equipment designed for horizontal detection of fish is similar to that used with great success in military search. It involves the propagation of ultra-sound underwater, the detection of its echo from fish individually or in schools, the amplification of the received impulse and its display on a cathode ray tube or sensitive paper record. Departure of the industrial fishing echo-ranging equipment from that for military purposes has been primarily along lines of simplification and range modification to meet the requirements of fishermen in matters of cost, complexity, ease of operation and breadth of beam angle.

Indeed, failure to extend the trend toward simplification sufficiently is given blame by some operators as a primary reason for lack of progress by echo-ranging in application to industrial fishing.

Some Problems of Echo-Ranging

● Echo-ranging as a tool of the ocean fisherman was discussed dispassionately and objectively in 1957 by Commander R. G. Haines of the technical staff of Kelvin Hughes Ltd., London, who is also a valued contributor to this issue. What he said then holds true today, the testimony of the additional years appearing to confirm his report, particularly with respect to the difficulties of employing present-day echo-ranging gear to industrial fishing. Quoting Commander Haines:

"The advantage of an echo-ranging system for searching fish is obvious enough. It is the ability to look all around you, instead of only at your feet.

"A vessel looking for herring schools can, with the aid of an asdic, search out a lane of water about two miles in width—one mile on either side of the ship's course . . .

(Editorial comment: This width of successful searching appears much greater than has been reported since, particularly by the Pacific nations.)

"However, the use of the asdic for fish detection is not all plain sailing. It can provide, at best, only a partial

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M/V Olympia's Captain Thomas Scola (left) says, "In our kind of fishing we're out three or four days at a time, with the engine running almost constantly. In spite of this, RPM DELO Oil keeps it clean, and our oil consumption is less, too." M/V Olympia (right) fishes for whiting in summer, haddock and cod in winter.

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aid to fishing, and is still in the early stages of development. Further research may show the way to improved performance, but the limitations of such horizontal detection are as much as anything due to the physical laws governing the propagation of sound in water and, as such, cannot be altered.

"For example, a sound beam transmitted horizontally through the water is apt to be bent, either up or down, depending on the change of water temperature with depth. This can have the effect of limiting the maximum range of detection of schools in midwater and may sometimes mean that, whereas echoes from objects near the surface can be picked up at considerable ranges, those in deeper water may only be detectable at a few hundred yards. But a more serious limitation to asdic performance is due to reflections from the bottom. In depths of water less than 20 to 30 fathoms these bottom echoes can be very troublesome. . . .

(Editorial comment: Thus in tuna and salmon fishing, two of the richest fields for horizontal fish detection, echo-ranging suffers special handicaps; in tuna because of the great depths where fishing is done; and in salmon because these operations—save for the Japanese—are conducted in a narrow band of relatively shallow or confined coastal waters).

"There is another aspect to be borne in mind: the actual business of operating the set at a maximum level of efficiency. The main problem is a matter of understanding the asdic chart, of recognizing the various clues which help to determine the source of any echo trace, and of discarding, by process of elimination, those which emanate from objects other than fish, such as wrecks on the sea bed, wakes of other vessels, and so on. . . .

"There is a very natural tendency, when marketing this new device, for the manufacturer to under-emphasize the operating difficulties. He does not want to give the impression that the user must have great skill and experience if he is to obtain useful results and, indeed, to suggest this would be to exaggerate the problem very considerably.

"Nevertheless, there is no good in denying that there are rather more difficulties involved in successful echo-ranging of fish than in echo-sounding."

R. W. Woodgate of Pye Ltd., Lowestoft, U.K., reports that they have been successful in overcoming some of the problems of surface and bottom echoes in asdic search by limiting the vertical beam angle to 8°, and increasing the scanning speed of the transducer head to 1.6 rpm. To achieve this speed it has been necessary to

CAPT. CARL SERWOLD

make the horizontal beam angle 30°, and the maximum range to just over 400 fathoms.

Species Variously Susceptible

● Herring appears to be the species to the fishing of which echo-ranging has been applied most successfully; and there can be wide variation in the degree of success under different weather conditions, and particularly between winter and summer. This is made plain by G. Vestnes of the Norwegian Institute of Marine Research, who comments:

"In November and December herring normally concentrate in large shoals in the open sea, when the temperature gradients are small and no considerable bending of the horizontal beam occurs. Under these favorable circumstances asdic ranges of 2,000 to 2,500 meters can normally be obtained in reasonable weather conditions.

"When an echo is heard or recorded, the target has to be identified . . . Experience has shown that a well trained operator can, to a certain extent, distinguish between echoes from herring shoals and echoes from other sources by analyzing the sound quality of the echoes. This procedure, however, is not infallible and it has been found advantageous to identify the asdic target by the vertical echo sounder. . . .

"Range of the asdic shows a large variation due to changes in water condition. The distribution of salinity and temperature in the summer is such that the effective working range is reduced and ranges of more than 1,000 meters should not be expected.

"The much greater horizontal range of the asdic as compared with the echo sounder has opened new possibilities of catching herring in the open sea and consequently a pelagic herring fishery in the Norwegian Sea is now a reality."

● Although most echo-ranging equipment renders its traces in indicator flashes or cathode ray tube presentation, graphic recorder types have been developed by a number of manufacturers, usually with the CRT and the paper recorder so combined that interesting pips on the tube can be recorded at option.

In equipment manufactured by Electroacustic GmbH, Kiel, Germany, for horizontal fish detection aboard large vessels, two identical transducers are provided; one for vertical observation and the other for sweeping throughout the quadrant from vertical to horizontal.

This full-scale lodar equipment is normally operated at 2,000 meter range, according to Karl Feher of this company's staff. When a trace is picked up and tracked to within 1,000 meters, the equipment is then switched to the 0-1,000 meter range and tracking continues. The school of fish will go out of the beam at the range of a few meters, when the lodar is switched to the vertical phase for exact depth determination and area delineation.

For use aboard smaller fishing craft, where cost, range, weight and electrical demand are matters of real consideration, Electroacustic manufactures a "miniature" lodar with only a single transducer and maximum range to 1,000 m.

In commenting upon lodar generally, Mr. Feher says, conservatively:

"From a technical point of view, horizontal ranging is a more pretentious procedure than conventional vertical soundings; the operators must therefore be better informed and more experienced regarding the characteristics of the apparatus and the properties of the sea water as a medium for the propagation of sound. Horizontal ranging offers a considerable extension of the searching range and direct hunting for distant fish."

Fire Hits Manly Boat Yard at Westminster

Fire caused about $50,000 damage at the John Manly shipyard, New Westminster, B.C., in December, but the plant is being rebuilt.

The Manly yard specialized in steel fishboat and other small boat construction, but only one vessel—a 39' launch being built for the B.C. government—was in the shop and destroyed when the fire broke out, presumably as a result of a sudden flareup of a highly combustible insulation paint.

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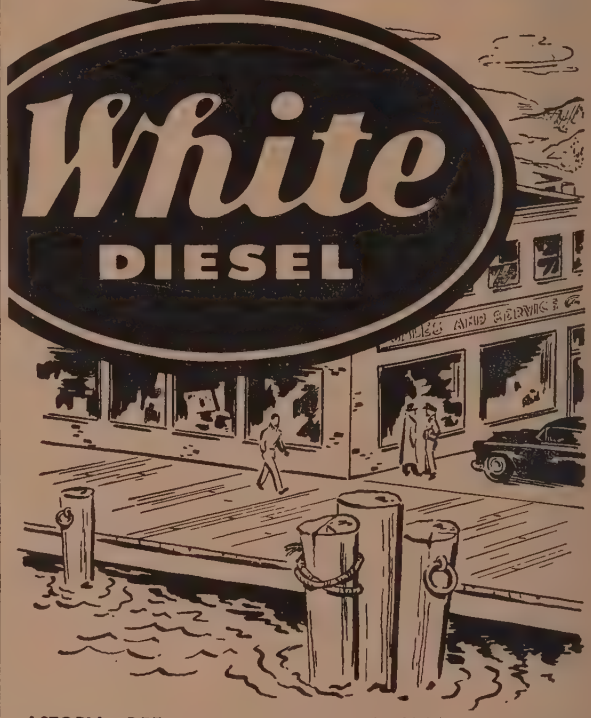

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"Pete" Maiorana Dies While Fishing Sardines

The many friends of Pietro "Pete" Maiorana, 59, owner and skipper of the Monterey purse seiner *Diana,* and prominent in the Monterey fishing industry for the past 38 years, were shocked to learn of his sudden death last month.

Mr. Maiorana was stricken with a heart attack aboard the *Diana,* about 3 a.m., as he was directing fishing operations. A call for medical advice was picked up at the Coast Guard Station from *Diana,* about 10 miles west of Pt. Sur. With the assistance of the Monterey Police Department a physician was dispatched to the *Diana* aboard a 38′ picket boat.

Mr. Maiorana was dead by the time the physician arrived. The Very Reverend Msgr. John J. Ryan administered the last rites aboard the picket boat when it returned with Mr. Maiorana to the Coast Guard Station.

Mr. Maiorana was one of the few veteran Monterey fishermen who refused to sell his purse seiner after the disappearance of the sardine some 13 years ago. He had a reputation among other fishermen of being able to find fish, if there were any to be found.

A native of Marettimo, Sicily, Mr. Maiorana came to Monterey in 1922, returning to Marettimo to marry his boyhood sweetheart on Oct. 28, 1927.

Mr. Maiorana was widely known and liked during his long years of continued activity as skipper of the *Diana.* A feature article on Mr. Maiorana and the innovations he had made on the *Diana* was published in the December issue of *Pacific Fisherman.*

He leaves his wife, Giuseppa; four daughters; three brothers; three sisters, and several grandchildren.

Gillnetters Repower With Compact Diesels

Apex Marine & Equipment, Inc., Seattle, reports four vessels with new Penta diesels. A Penta MD 47, rated 83 hp continuous, has been sold to L. W. Jenson of Seattle for his gillnetter-troller *Lester;* another of the same engines has gone to Ludvik Haugen for his 35′ gillnetter; and another MD 47 is for Knud Peterson who is having a 35′ gillnetter built in New Westminster, B. C., for Puget Sound operation.

A fourth Penta-powered vessel reported by Apex is the 42′ troller *Rainbow* owned by Ole Sather, which is receiving a 103-cont.-hp Penta MD 67. The repowerings are being done at Salmon Bay.

1960 Sockeye Regulations Get Minor Modifications

● Modifications designed to apply to the 1960 Sockeye salmon fishing regulations recommendations of industry advisors were adopted by the International Pacific Salmon Fisheries Commission late in January.

As the 1960 cycle is the weakest of the four running to the Fraser, prime consideration in this year's regulations is to afford protection to segments of the run particularly in need of upbuilding. These are the early-running Stuart Lake race and the late-running strains going particularly to the Birkenhead and Pitt River spawning grounds.

The two principal changes in the regulations as originally proposed would:

1. Add two days of fishing for the fishermen of both nations in the Strait of Juan de Fuca. These days, Aug. 8 and 9, are added to a season whose active fishing previously would have ended with Aug. 3.

2. Close all fishing in inside American waters from August 14 to August 28 to protect the late-running Pitt and Birkenhead runs of Sockeye. By August 28 all Sockeye are expected to have passed through United States waters, so control will be relinquished by the International Commission and the Washington Director of Fisheries will have authority during the Silver and Chum runs of the fall months. This change was strongly recommended by the American Industry advisors, who reported to the commission that the fishermen objected to the originally proposed 2-day fishing week from Aug. 14 to Sept. 17, and would prefer the complete closure for two weeks as a means of giving added protection to the weak races.

Minor changes approved by the commission would hold open the matter of weekly start of fishing in Canadian strait waters pending agreement between the various groups of fishermen.

Another would permit the use of King salmon nets in the Fraser during the latter part of September in the event that an emergency closure of Sockeye fishing in the river should become necessary.

Matt Nelson Passes

Capt. Matthew N. Nelson, 63, a veteran of the Seattle halibut fishery, died there in January. He had owned and operated the halibut vessel *Eureka* since 1927.

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Banned Net Fishermen Win Compensation Suit

California fishermen who suffered financial loss because of a 1957 anti-netting bill are entitled to some reimbursement, the state supreme court ruled last month.

Claims have been piling up since the legislature passed the Sutton bill in 1957, making it illegal to fish commercially for salmon or shad with any net in waters upstream of Carquinez bridge in San Francisco Bay.

At the same time the legislature appropriated $350,000 to reimburse fishermen whose boats and nets lost value due to the ban.

When the State Board of Control asked for the money to satisfy numerous claims, Controller Alan Cranston refused to turn it over on the grounds it was "perhaps being disbursed illegally."

The board took the matter to court, maintaining the claims were a state obligation and "for a public purpose." The court concurred.

However, dozens of claims have been filed amounting to almost $600,000. How the appropriated $350,000 will be spread out to claimants is a matter not under consideration by the court.

Minor Lervold Again Heads Marketing Group

Minor Lervold, owner of the Seattle trawler *Zarembo II*, was re elected president of the Fishermen's Marketing Association of Washington, Inc., at the association's annual meeting in January. Named to the vice-presidency was Carl Serwold, owner of the trawler *Tordenskjold*.

Board members elected were Olaf Angell of the *Arthur H.*; Sig Aarvik of the *Traveller*, and Einar Pedersen, owner of the *Susan*.

"Sea Boy" Sinks

The tuna clipper *Sea Boy*, out of San Diego and owned by Franco-Italian Packing Co. of Terminal Island, went down off San Roque Island, Baja California, on Christmas Day 1959.

The entire crew, headed by James Nichols, was saved. The men even succeeded in salvaging their personal gear and some ship's supplies and food; but they lost 50 tons of tuna.

Rescued by the Japanese freighter *La Plata Maru*, bound for Panama, the men were transferred to the United Fruit Co.'s *Fra Berlanga* and landed at San Francisco. Seven of the crewmen were from San Diego and five from Ensenada.

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"Jo Ann" Refrigeration System Is Granted Patent

• The "JoAnn System" for freezing newly-caught fish in the hold of a fishing vessel is now covered by a US patent, No. 2,909,040, issued to Malcolm L. Newell, inventor of the system and engineer on the San Pedro purse seiner *JoAnn,* first vessel to use the Newell System.

Besides the US patent, a similar one has been granted in Peru, and a Mexican patent is pending, Mr. Newell told *Pacific Fisherman.*

The Newell system or modifications of it, is now in use on a number of seiners in the fishery out of San Pedro. Briefly, under the Newell system, an ice reserve is built up around coils installed in the hold, when the vessel leaves port. When fish are caught, they are stowed in the hold and quickly freeze in the low temperature. At the same time, brine is sprayed on the fish from pipes overhead in the hold, and the same brine is re-circulated by a bottom sump pump and resprayed, while coolant circulates in the coils.

In this way the brine spray is constantly being cooled, the fish in the hold are quickly frozen and kept frozen, the brine spray tends to freeze each fish individually rather than all in a block. With the Newell system it is possible to use one large hold rather than several compartmented smaller holds; there is little or no damage to fish from men walking on them in the hold, or from fish abrading against each other; fish can be stowed promptly when caught, reducing the risk of spoilage as they lie on deck; unloading is faster and easier, and can be done through a single hatch; and fish usually arrive in near-perfect condition.

These aims and advantages are set forth in the patent, which covers specifically the steps in the process, the "apparatus and method."

The *JoAnn* herself has been using her engineer's invention successfully for more than two years, while other vessels have made similar installations with similar success.

Mr. Newell said he plans to permit the use of his system under royalties of 1% of the gross tonnage of fish of all varieties refrigerated by systems that come under his patent. Royalty licensees, he said, would be entitled to use any improvements or refinements to be made in the system in the future.

Mr. Newell also plans to license the installation of coils, spray lines, etc., for his system to various boatyards in various fishing ports.

Now in process of organization is the American Spray Refrigeration Corp., to develop and promote the Newell system. John Resich, skipper and part-owner of the *JoAnn,* is associated with Mr. Newell in the enterprise.

The *JoAnn* is a wood hull seiner, 86' long, with a capacity of 115 tons of refrigerated fish. Built by Martinac and originally named the *Aurora,* she is now owned by Mr. Resich, Mr. Newell and George Moscovita of Astoria, Ore.

New Steel "Attu" Mounts Controllable Pitch Wheel

• A 76' all-purpose steel halibut seiner, to be named *Attu,* has been built at the Vancouver, B.C., yard of Allied Welders, Ltd., for Captain Edgar Arnet. Design was by Robert Allan, Vancouver naval architect, who has been drawing plans for fishing vessels and towboats and other craft in British Columbia for many years.

Mr. Allan had designed the *Kodiak* for Capt. Arnet and this vessel was lost in a storm some time ago. But Capt. Arnet liked *Kodiak* so well that when he decided to have another boat built for him he asked Mr. Allan to do the job. He suggested that, in addition to adapting some of the *Kodiak's* features, the new boat should follow the lines of the successful *Bering Sea,* completed last year. However, it was specified that *Attu* be given a rounded rather than a V-bottom.

Attu has been equipped with a controllable pitch propeller, said to be the first to be installed in a Pacific coast fishing vessel for some years. This device, supplied by Stork Werkspoor of the Netherlands, which also built the 282 hp. diesel engine (at 650 rpm.) for *Attu,* provides unusually sensitive control over the vessel while fishing and also permits changing of individual blades.

The propulsion installation was supplied by L. Van der Veen, Ltd., Vancouver, the west coast representative of VMF Stork-Werkspoor. Stork engine's operate according to the four-stroke cycle principle. The combustion space is of the patented Ricardo design, including the whirl chamber. The perlitic cast-iron cylinder liners are provided with a chrome-hardened running surface, which insures long life.

The engine is coupled with a 2:1 reduction gear to give the variable reversible pitch propeller a continuous operating speed of 325 r.p.m. Main feature of the Werkspoor propeller is that it is fitted with removable blades, which are bolted to the propeller-blade journals. This construction enables the blades to be removed without disturbing the oil seals of the oil-filled hub, thus saving time and avoiding loss of oil.

The engine can be uni-directional and will continue to run smoothly and quietly when maneuvering from ahead to astern and vice versa. Complete maneuvering of the engine and propeller take place with remote control stands located in the wheelhouse and just forward of the wheelhouse. A Stork-Werkspoor hand-hydraulic steering gear is also a part of *Attu's* equipment.

Attu's hull form is rather unusual in that provision is made for rounded bilges and the first bilge keel rolling chock to be installed in a B.C. fishing vessel.

Yet another unusual feature is the aluminum alloy deckhouse, wheel house and funnel, all of which are innovations in B.C. They are expected to add to the stability of the vessel as well as reduce weight by several thousand pounds.

2 Crabbers Drown

Ray Vanderpool and his son Vernon, Crescent City crab fishermen, were drowned when their boat *Leader* capsized and sank in rough seas near Brookings, Ore., last month. The engine from the 40' boat was salvaged and is being repaired so it may be sold for the benefit of the estate of the owners.

Tripple & Everett Builds Three Fishing Vessels

Tripple & Everett Marine Ways, Seattle, is building a 35' beach seiner for Pacific American Fisheries, a 44' seiner for New England Fish Co., and a 42' troller. The larger seiner and the troller will receive GM 6-71 diesels

"San Vito" Now Drags

San Vito, formerly a Monterey purse seiner, is now owned by Gib Hunter, Hunter & Foland Fish Co., Fields Landing (Eureka), has been converted to a dragger and has been repowered with a Vee 12, turbo-charged 430-hp. Cummins diesel engine, with Twin Disc 4-1 reverse and reduction gears. The installation was made at the Coos Bay Boat Shop, Coos Bay.

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Another in a new series of Starr advertisements direct from the fishermen using Starr Nylon Netting.

STARR NETTING . . . STAR PERFORMANCE

STARR NETS

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Diesel-powered beach seiners, shown here under way, with a third view of the GM diesel installation in one, proved themselves abundantly in 1959 fishing.

2 Diesel-Driven Pocket Seiners Sharp Producers

● Bright newcomers to the fishing fleets of Central and Western Alaska are a pair of diesel-powered beach seiners, the *Draco* and *Orion,* put to work last summer by the Columbia Ward's Fisheries of Seattle.

They were among the first craft of this type in the Pacific Northwest to employ the GM Diesel Series 53 engine for propulsion. Each boat is powered by a 4-53 model which turns a 22-by-16" propeller through 2-to-1 reduction. Modern Motors, Inc. of Seattle supplied the diesels. They have Mathers 2-station remote controls.

The seiners are of wood construction, measure 34' overall, 13½' in beam, and have a stern tunnel design providing 2' draft for shallow water operation. Designer was William Garden, naval architect of Seattle.

Builder of these two vessels is Commercial Marine Construction Co., Seattle, who have now constructed about 10 "beach" seiners of the same design, and perhaps 75 of the same general type, according to David LeClercq, manager.

Other equipment on the *Orion* and *Draco* includes the Marco power block and, visible at the extreme right in the photos above, a diesel-fired Olympic galley stove by Washington Stove Works of Everett. These boats accommodate four men.

Their purse winches are manufactured by Danovich Equipment Co. of Seattle, and this firm supplied all galvanized hardware for *Orion* and *Draco*, a considerable list of equipment including steel boom, anchor roller, rails, bridge ladders, tanks, rudder and skeg, stem band, chain plate, and the muffler, exhaust system and stack for each of the twin vessels.

Moss Landing

● Apelco AR-9, citizens' band radiotelephone has made an appearance at Moss Landing, where it is being sold by Dale Detwiler. The two-way radio is a compact 9-tube, 5-channel portable station for use in the Class D Band. Henry Mello of the *Alabam* has purchased two. Nino Davi on the purse seiner *New Roma* and the seiner *Diane* have ordered 32 volt sets. Martin Allen of the *M. A. Jr.* has also installed one of the Apelco AR-9's.

The sets can be used in cars, radios, boats and offices. Only complaint is, the fishermen say kiddingly, they "can't get away from it all anymore."

Dale Detwiler has ordered a Sperry radar for Nino Davi's purse seiner *New Roma.* Nino has promised to hold "open boat" for those interested when the set arrives. Nino had an excellent season. Day after day the boat came into the Santa Cruz cannery in Moss Landing loaded to capacity. The "island" was congested with cars and cannery employees as Joe Olivieri's plant hummed around the clock.

The Coast Guard will stop numbering boats and the state of California will take over the system on April 1, 1960. The Department of Motor Vehicles will accept applications for new California boat numbers March 1. New digits will cost boat owners $5 for a three year period.

Late registration may cost the owner a 50% penalty. Using a boat without a number after April 1 subjects the operator to a $50 fine. Under the new law all documented vessels must be registered except government boats, those propelled by paddles or oars, sailboats of eight feet or less and boats powered by electric motors of 10 hp or less. Detailed instructions and application forms will be distributed early in 1960.

Leonard Shirrell has sold his 33 foot Monterey clipper *Dorothy Belle* to Harvey McGuire. The boat has cedar planking and oak ribs. The engine is a Universal "Blue Jacket" (6) 60 HP. Radio receiver and direction finder are Apelcos. Depth sounder is a Raytheon. Automatic pilot is a Wood-Freeman. Other sales reported by Don Woodward are: The 28' *Susan Kay,* sold by Dale Detwiler to John A. Paulson Sr., John Jr. and Archie Price. The boat has a Redwing (4) 45 HP engine, Kaar radio and receiver and Apelco depth sounder.

The 30' Monterey clipper *California* was sold to Stanley Ellis by Lynn Gion. The engine is a Chrysler Ace 94 hp engine. It has a Collins 50-watt radio and an RCA direction finder. The 28' Monterey double-ender *Teal* was sold to Lynn Gion by Gene Schonrock. Engine is a Fairbanks-Morse 20-hp. Radio is an Apelco and depth sounder is a Jackson.

Clarence Harmon, veteran American Airlines pilot, is having a 52' northern troller built in Kernsville. Ore., on the Siletz River. Harmon expects to use the boat for commercial fishing upon his retirement in a couple of years.

W. L. Kneas, Fish Boat Builder, Passes

The many friends of Webster L. Kneass Sr., 61, senior partner in Geo. W. Kneass Co., pioneer San Francisco boat building firm, were saddened to learn of his death last month.

His father, George W. Kneass formed the firm in 1874, thus making it one of the oldest boat building companies on the Pacific Coast. After the senior Kneass' death, the business was conducted by Webster and his brother George, who passed away in 1942.

In 1951 Webster's son Webster Lincoln Kneass II became a partner, and he will continue the business.

Mr. Kneass leaves his wife, Ruth; and sons Webster II and Clifford Dunham Kneass, and five grandchildren.

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For Sale—Halibut Gear and Winch. Contact Asburn Arnesen, 16232 38th N. E., Seattle, Washington.

For Sale—Comb. troller and albacore boat "Sun-Ra". 46'8" x 13'8" x 8'2". Built 1948 Bellingham, Wash Monk design, 24 ton net. Full refrigeration, phone, Apelco D. F., Loran, Depth-finders, Freeman mike, 32 V system, Petter Auxil., G. M. Power. Moored at Moss Landing, Calif. C. R Pederson, 525 Gertrude Ave., Aptos, Calif. Phone MUrray 8-5509 after seven pm.

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Complete Crab Cannery 30 miles north of Sitka, Alaska. 100 new and 125 used crab pots in first class shape. Also lines and buoys. 52 ft. crab and combination boat; 165 G. M. Diesel; live tank; 50 W Kaar radiotelephone; new Raytheon Fathometer with repeater. Boat and machinery in first class shape. 3 wannigans; 2 shop and storage and 1 cannery and living quarters. Complete and ready to go. $45,000 complete; or will sell separately. Write Gorman Fox, Box 699, Sitka, Alaska.

For Sale: Practically new Chrysler 110 gas marine engine with propeller shaft, bearing, controls for motor, $800.00. Motor used only 50 hours. Meredith Fish Company, P. O. Box 954, Sacramento 4, California.

Want West Coast boat 55' to 65' long, 16' to 19' beam. Prefer Washington or Atlas engine. No fishing gear unless for trolling. Please send photograph, price, location, year built and other particulars first letter. Reply to Box 128, Pacific Fisherman, 71 Columbia St., Seattle 4, Wash.

For Sale—Boat "FAYE" 48'-13'-6' round stern troller. 671 G.M. Diesel, Witty Aux., 20 ton refrigerated hold. 100 Watt phone. Kaar D. F. Freeman pilot. Loran, Galley on deck. Built 1945. Boat and equipment in good condition. Price $19,500. Write O. E. Rhodes, 1152 Oliver Ave., Pacific Beach, California. Phone HU 8-0945.

FOR SALE
42½' modern Troller. Built 1950. 3 cylinder G. M. Diesel. Complete electronics including Loran Kolstrand Gurdies and Anchor Winch. Galley on deck. George Mischel, Star Route 1, Box 86, Bremerton, Washington. Phone Silverdale MYrtle 2-4031.

For Sale—Boat ACAMAR steel troller. 42' register length, 12.1' beam, 5.5' depth. 14-ton refrigerated hold. 1959 Apelco D. F., Auto pilot, Fathometer, Radio, Loran. Rigged for Albacore. 2000 gal. fuel, 800 gal. fresh water, 65 scoop bait tank. 671 G.M.C. engine, major overhaul last spring. Douglas Graen, 428 Marin, Mill Valley, California. Phone DUnlop 8-5353.

ESTELENE—(Former DanBill) Albacore jig and bait troller. 46 oa x 14'8" oa, blt 1949 @ cost $73,000. Cummins Diesel, F-M Dies. Aux. 17 ton refrig. hold full electronics, 125 scoop tank, 4 bunks, head, comfortable and roomy wheel-house—$21,000 cash. Many other Monterey Clippers, Salmon & Albacore Trollers, Draggers, Seiners from $1,000 to $75,000. WOODWARD BROKERAGE, Don Woodward, Dick Woodward, at Standard Oil Dock & Marine Store, Box 45-A, Moss Landing, Calif. Tel. Castroville NEwton 3-2620.

New Crankshafts for Sale: Cooper Bessemer GNB-8; Enterprise Model "G"; Alco Model "539"; General Motors Model 12-567 & 8-268A; Union Model V6—14" engine; Fairbanks Morse 10 Cylinder & 9 Cylinder, upper and lower. Pacific Diesel Co., 340 West Nickerson St., Seattle 99, Washington.

FOR SALE—5 Gangs, Nylon Sea Bass Nets, Anchors, Lines, Buoys. Also large Net Spool 6 months old. $1,500. Jay Burton, 4136 Ibis St., San Diego 3, California.

Columbia River Unions Re-Elects Its Officers

Russell Bristow in January was re-elected president of the Columbia River Fishermen's Protective Union.

Other officers also were returned to office: Tom Jorgenson as vice president; Albert Keranen as Treasurer and William Westerholm as secretary.

Directors of CRPFU are:

Portland district, Harris Quade; St. Helens, Charles Fleming; Kalama, Ross Leroy; Mayger-Clatskanie, Ernest Niemela; Wauna-Puget Island, Russell Bristow; Altoona, David Hilsbery; Knappa-Svensen-Brownsmead, Jack Marincovich; Astoria, Helmer Lindstrom.

The salmon troller **Solbeig,** owned and operated by **Peter Baade,** Watsonville, Calif., disabled by engine failure five miles southwest of the Humboldt Bay entrance last month, was towed into Eureka by the Coast Guard motor life boat.

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Japanese Discover Tuna Off Argentine Coast

The Japanese tuna freezer-fishing vessel, *Yoshino Maru* took 150 metric tons of tuna en route to Argentina from Japan. After leaving Japan, the vessel fished in the Pacific along the equator and caught 70 tons of Yellowfin, Bluefin, Albacore, and Big-Eyed tuna.

Heretofore it was believed that there were no tuna off the Argentine coast, but the vessel found them 300-500 miles offshore in the Atlantic. The modern Japanese flag vessel is 180 feet long, has a beam of 29.5 feet, and is powered with a heavy-duty 1,150 hp. diesel engine. The hold capacity is about 440 metric tons of frozen fish and freezing capacity is 17 tons daily. Equipped with all modern navigation aids, the vessel can cruise at 11.5 knots. She is manned by 8 officers and a crew of 50.

The Japanese vessel is under contract to a Mar del Plata fishing firm which plans to use the vessel to obtain frozen fish for the Argentine market.

Yoshino Maru is the second Japanese vessel fishing under contract to the Argentine fishing industry. The first vessels, the *Eisei Maru* has been tuna fishing for about one year for the Mar del Plata Fish Canning Association.

Death removed another old-timer from the fishing community of San Pedro late last December when **Agostino Castagnola**, 72 year old, a retired fisherman, died at his home in the southern port.

Mr. Castagnola had lived in San Pedro 53 years. Besides his widow, he leaves a brother, a sister, three daughters, four sons and six grandchildren.

Bell Ship Hauls Out Six Seiners

Early repair-season reports from Bellingham Shipyards include the routine repairs of the seiners *Catherine, Connie Kay, Joseph* (which was shortened to Alaska limit length there last year), *Memento,* and *Kemo Sabay.*

The yard has been occupied also in the overhaul of the engine in Otto Weissich's reefer ship *Halawaii.*

Dan Luketa Continues As Trawlers' Head

Dan Luketa, owner of the *Western Flyer,* was re-elected president of the Northwest Trawlers Association, Inc., at the organization's annual meeting in January. Re-named to the office of secretary-treasurer was Rudy Schulze, captain of the trawler *Paul L.*

In addition to the officers, following three members were named to the Board of Trustees: Ivar Angell of the *Kodiak;* Wilhelm Jensen of the *Ann B.,* and Harold Hansen, captain of the *Excell II.*

U. S. Halibut Inquiry Rouses Japanese Interest

A small sensation is reported in the Japanese fishing industry as result of an inquiry lodged recently with the Japan Fisheries Agency by W. G. Van Campen, fisheries attache in the U.S. Embassy, Tokyo.

Mr. Van Campen is understood to have asked the agency to conduct an inquiry as to the source of the halibut which Japanese firms have been offering in considerable volume in the United States and Great Britain.

Franck Rebuilds "Cory J."

Vic Franck Boat Co., Seattle, has completely rebuilt the former 38' troller *Cory J* for Al Johnson, making it virtually a new boat, now 46' long, with a horseshoe stern replacing the former transom, new cabin, new decks and bulwarks, and a larger shaft, more reduction ratio, and larger wheel. The same GM 4-71 diesel remains for propulsion.

Northwest Repowers Two

Northwest Boat Shop, Everett, has repowered the 47' troller *Sandra Sue* for Humphrey Tryon. The new power will come from a rebuilt Cummins diesel, of 150 to 160 hp, with 3-to-1 reduction gear.

The yard also changed the gillnetter *Gracie M.* from gas engine to Ford 4-cylinder diesel, for Sherman Sessions of Stanwood, Washington. The engine comes from Alaska Pacific Supply Co., Seattle.

California Boat Sales

The well known San Francisco trawler *Admiral King,* has been sold by Benny Pignati, to Byron Anderson, Eureka. The craft will fish for Hunter & Foland Fish Co., Fields Landing.

The well known San Pedro purse seiner *Clermont,* formerly owned by John Evich and John Kunich, has been sold through Dan Bohne & Son Fishermen's Wharf, San Francisco, and John Karmelich, San Pedro, to Sal Ventimiglia, and his son-in-law, John Cardinalle, both of Monterey. Sal is an old time Monterey purse seiner skipper and also a former sardine processor.

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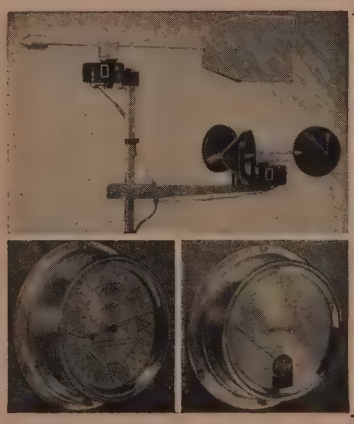

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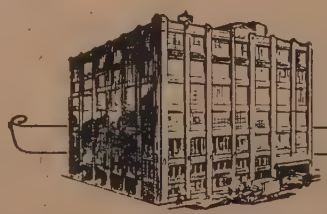

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Japan's Fuginaga Diverts Talents to Prawn Culture

Dr. Motosaku Fujinaga, for more than a decade chief of the Investigation and Research Department of the Japan Fisheries Agency, resigned this winter to become president of Taiheiyo Yogyo K.K.—Pacific Fish Culture Co., Ltd.—established jointly by Taiyo Gyogyo K.K. and Nippon Suisan K.K., two of the largest Japanese fishing companies.

The new company will conduct propagation and cultural operations primarily with the Japanese prawn, and later perhaps with other species and products.

Dr. Fujinaga has made the life history of the Japanese prawn, *Penaeus japonicus*, his personal research enterprise since he was a student; and has been able to maintain a private laboratory and his studies through the years of his service to the nation as head of the Japanese governmental fisheries research branch.

In the new venture he believes it will be possible to propagate and raise the high-priced prawn at a much lower price than they are now available. This appears possible by enormously increasing the number of young which mature from a prawn's egg deposition through providing a vegetable plankton, *Skeletonema* for food.

Initial operations will be conducted on former salt beds near Takamatsu, on the Inland Sea. Target for the first year is 22.5 tons of mature prawns, rising 10-fold in the second year, and reaching 10,000 tons in the fifth year, when commercial marketing will become of importance.

While prawns find ready market in Japan, achievement of real volume would unquestionably find the specialty offered in the United States.

Heavy King Crabbing Develops at Alitak

Exceptionally good King crab fishing developed in January in the waters of southwestern Kodiak Island, generally in the vicinity of Alitak, where Pacific American Fisheries has established its new King crab canning facilities in connection with its salmon cannery.

Crab vessels from other parts of the Kodiak Island area concentrated their gear in the vicinity of Alitak, and it was generally conceded that the volume of King crab gear being fished in central Alaska from Seward west to Dutch Harbor was greater than in any previous year.

Whether there will be American competition for the Japanese in the Bering Sea King crab fisheries later this year is not yet determined.

Feds Follow-up Study on Fish Fats in Heart Diet

● Following up its successful research findings on the usefulness of fish oil fractions in reducing high blood-serum cholesterol levels in animals, the U.S. Bureau of Commercial Fisheries has embarked on a stepped-up research and technical assistance program in this area.

Ross Leffler, Assistant Secretary of the Interior, explains that the plans include making available to interested medical and pharmaceutical researchers relatively large samples of purified fish oil fractions and the screening of 25 species of edible and industrial fish to determine whether the types of fatty acids present in these fishes are those useful in dietary and medical treatment of elevated cholesterol levels.

Nutritional advisory services on fish oils and edible fish products are being made freely available to dieticians and medical researchers engaged in formulation of special anti-cholesterol diets.

Donald L. McKernan, director of the Bureau of Commercial Fisheries, says the Bureau has had many expressions of interest from researchers in utilizing fish oils and fishery products for human feeding trials. Large quantities of these oil fractions have not been available. To remedy this situation, the Bureau is undertaking the preparation of such oil fractions utilizing a pilot-scale centrifugal molecular still and will make oil samples available, free of charge, to responsible researchers.

The key findings of recent research which the Bureau hopes will encourage full scale clinical testing by responsible medical staffs are (1) the abundance of what are known as "unsaturated" fatty acids in the body oils of many species of fish, (2) proof that the feeding of these "unsaturated" fatty acids to test animals reduced the highly elevated content of cholesterol in their blood sera to "normal" levels, and (3) that the more "unsaturated" the fatty acid used, the more effective it was in normalizing levels of serum-cholesteral.

This latter finding was of most immediate interest to fishery researchers since fish oil fatty acids contain up to six points of unsaturation as compared to two points of unsaturation in linoleic acid, the active cholesterol-depressant agent in vegetable oils. Use of a properly prepared concentrate of these highly unsaturated fatty acids from fish would permit effective anticholesterol treatment with a minimum of added fat intake.

Bureau researchers pointed out that these unique "soft fat" features of fish oils make fishery products especially valuable for inclusion in diets designed to bring about a better nutritional "balance" between the hard and soft fats in the American diet. Many medical authorities have pointed out the desirability of increasing soft fat consumption as a possible means of controlling blood-cholesterol levels.

Victor Elfendahl, Long A Salmon Leader, Dies

Death came in January to Victor H. Elfendahl, for many years a leading figure in the salmon canning industry.

He was 82, and had been retired for a number of years.

Mr. Elfendahl became president of the Association of Pacific Fisheries first in 1927, and served in that capacity for a number of years at two different periods. He was a packer whom other packers held in respect, regard and trust.

That cannot be said of too many.

As a young man Victor Elfendahl was in the lumber business, where he advanced brilliantly. He entered the salmon industry as a founder of the Tee Harbor Packing Co.

In 1917 he became executive assistant to D. E. Skinner, president of the Skinner & Eddy Corporation, and as that company subsequently expanded into salmon canning that phase of its operations became Mr. Elfendahl's special responsibility, which he carried until his retirement.

Canada and Alaska Talk Coastal Fisheries

Headed by A. J. Whitmore for Canada and C. L. Anderson for Alaska, delegations met in Ketchikan January 27 to discuss fisheries matters in relation to run to northern British Columbia streams which occasionally pass through Alaska territorial waters in their migration.

The conversations are believed to be the first on this subject to be undertaken by Alaska since control of its fisheries passed to the state the first of January.

John T. Gharrett, U. S. Bureau of Commercial Fisheries regional director for Alaska, was a member of the delegation headed by Mr. Anderson, Alaska Director of Fisheries and Game.

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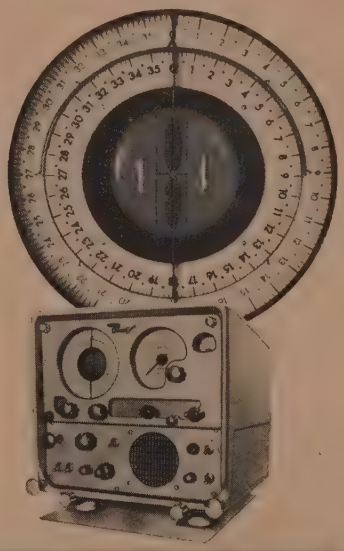

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C.R.P.A. Establishes Alaskan Office For Liaison

Columbia River Packers Association, Inc., late in December opened an office in Juneau, Alaska, with John R. Gilbert in charge as the company's resident representative in Alaska, according to announcement by T. F. Sandoz, C.R.P.A. president.

Mr. Gilbert is a graduate of the University of Washington College of Fisheries and has had a broad experience in Alaska during the past 12 years as a staff member of the Fisheries Research Institute, which conducted extensive investigations on management of the Bristol Bay salmon fisheries.

In addition to its wholly owned salmon packing operations in Bristol Bay, Columbia River Packers has extensive interests in other salmon packing operations in Alaska through its investment in Excursion Inlet Packing Company and CWC Fisheries.

"Mr. Gilbert makes his residence in Douglas, with an office in Juneau, which will be helpful in maintaining a better liaison between our various resident company operations, the State Government, and the other business interests of Alaska," Mr. Sandoz said.

Mrs. A. L. Hager Passes

Mrs. Alvah L. Hager, widow of a former president of The Canadian Fishing Co. who for many years played a dominant role in the fishing industry of Canada and the United States, died January 12 at her home in Vancouver, B.C. She was 82.

Four of her five sons are active in the fishing business—Roger T., now president of The Canadian Fishing Co.; Douglas, manager of Puget Sound operations, New England Fish Co.; Norman, head of Bayside Suppliers; Robert, manager of a processing plant. She is also survived by four daughters, 25 grandchildren and four great-grandchildren.

Mrs. Hager accompanied her husband from Boston to the Pacific coast when he was laying the foundation for New England Fish Co. and later establishing The Canadian Fishing Co. in Vancouver.

W. H. "Jack" Horner Passes at 84

W. H. Horner, known to two generations of salmon canners as "Jack" Horner, died in Seattle in January.

At one time active in salmon canning, he conducted a salmon labelling and casing service in Seattle for a number of years; but had been retired for some time prior to his death.

Monofilament Nylon Salmon Gillnets

By P. J. G. CARROTHERS

● During the summer of 1959, several panels of perlon (nylon) monofilament netting were tried by the commercial salmon gill-net fleet out of Steveston, B. C. These panels were inserted into conventional gill nets and were fished mostly in the Strait of Georgia just outside the estuarial flow of the Fraser River. The main reason for trying monofilament netting is to find a material which is less visible in the water than is the usual multifilament nylon netting.

Fine monofilament gill nets have been used successfully for several years in the lakes of Europe but, because of their fineness, these nets are too weak for salmon. Unfortunately, there are manufacturing limitations to the coarseness, and hence to the strength of monofilament netting. The looms have less control over coarser than over finer filaments during netting manufacture, and knots have greater tendency to spring open when tied in coarser filaments than in finer filaments. Most of the panels tried this year were made of filament 0.5 mm (0.02") in diameter and there was an experimental net made of filament 0.8 mm (0.03") in diameter. This last was the largest net and used the heaviest filament of any monofilament net made in the Itzehoer factory. The heaviest monofilament netting previously examined by this investigator was made of filament 0.35 mm (0.014") in diameter.

This perlon netting was surprisingly flexible for monofilament although, of course, it was considerably stiffer and more springy than conventional multifilament nylon netting. As a result of this springiness, the monofilament netting is relatively bulky unless physically restricted, but apparently it is not difficult to handle, having less tendency than conventional netting to become tangled while the net is being set, and winding compactly onto the drum while being hauled. Also, as a result of the stiffness, the monofilament netting does not entangle fish as does conventional multifilament netting. Instead, the fish must become properly gilled in order to be captured. For this reason, the fish should be cleared frequently from the net before they work loose, particularly if there is a swell. Apparently monofilament netting was tried in the Japanese high-seas gill-net fishery but was rejected for this reason. More flexible monofilament nylon is available, but this experiences a permanent stretch under load so that meshes in netting made of such monofilament would continually increase in length during use. The manufacturers are continuing research to find a more flexible and dimensionally more stable filament.

The single weaver's knots in this perlon netting were well formed and well set. Satisfactory knots are apparently achieved by placing the loom in a hot room while the netting is being manufactured. Knots in netting made with the 0.8-mm diameter filament could be pushed apart quite easily, but knots in netting made with the 0.5-mm diameter filament had been bonded with a rosin preparation and could not be pushed apart. Knots in the former (0.8-mm) netting also tended to slip when the mesh was pulled by hand. Knots in the latter (0.5-mm) netting did not slip when dry, but some did slip under load after the netting had been soaked overnight in water. Of ten wet mesh test breaks, the 0.5-mm filament broke under an average mesh load of 18.3 lb. in seven cases and knots slipped under an average mesh load of 12.2 lb. in the other three cases. The tendency to knot slippage would probably have to be reduced before these nets become fully accepted by the commercial salmon gill-net fleet.

In the water the monofilament netting is less visible than is multifilament netting to the human eye and also, apparently, to the fish's eye. Greater catches were reported with monofilament netting than with multifilament netting by day in "green" water, although by night or in the river this difference was not noted. The fishermen feel that more experiment is needed with the monofilament nylon netting, trying different hang-in ratios, different weights of lead line, etc., before its merits are judged. The present panels were a pale blue-green colour; perhaps other shades should also be tried under various conditions.

Monofilament netting cannot be expected to last longer or to hold fish better than the lighter of the conventional multifilament nylon salmon nets. Further, the monofilament netting is considerably more expensive than multifilament netting, although prices of the monofilament netting are reported to be lower for the 1960 season than they were for the 1959 season.

It is important to note that the monofilament netting increases in mesh length when wetted much more than does multifilament netting.

When breaking length is taken as a measure of strength quality, the monofilament netting is weaker.

Obviously, many technical problems must be solved before monofilament nylon netting can be fully accepted for salmon gill nets. The netting should be stronger, either by using heavier monofilament or by improving the quality. The filament should be more flexible without excessively increasing the stretch under load and without losing stability of mesh length. The cost should be lower to compete with multifilament nylon netting. Also, many questions of application should be answered, such as: what colour the filament should be, what mesh length should be used, how much the web should be hung in on the lines, and how heavy the lead line should be. But the fact that monofilament netting is less visible in the water than is multifilament netting should encourage solutions to these problems and answers to these questions.

NOTE—Mr. Carrothers' article on monofilament netting is condensed from a report published by the Fisheries Research Board of Canada.

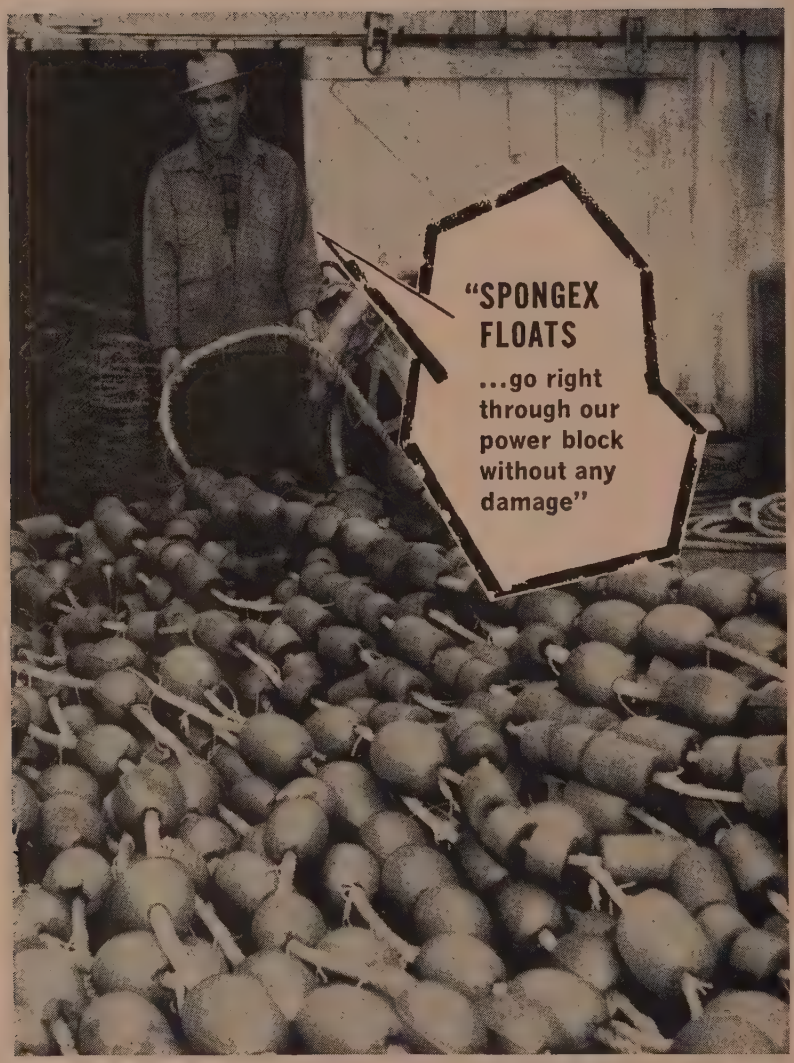
U. S. High Seas Fishing Enforcement Men Assigned

Two fisheries management agents for the Bureau of Commercial Fisheries were stationed in Astoria, Ore., and Eureka, Calif., in January, according to Samuel J. Hutchinson, regional director.

They are Elmer Copstead, assigned to Astoria, and Laurence Knapp, assigned to Eureka. Both men will be working out of the regional office in Seattle under Gomer W. Hilsinger, fishery management supervisor.

Purpose of the assignment is "to enforce international treaties and acts for protection of the Pacific halibut and other fishes and aquatic mammals including whales, fur seals, and sea otter." The men will check fish landings at docks and cooperate with the Coast Guard, state fishery agencies and other organizations with their enforcement activities and in making offshore patrols.

Copstead will cover the entire Oregon coast and part of southern Washington. Knapp will be responsible primarily for the Northern California coastline, but he will work in close cooperation with the Bureau's area director at San Pedro.



CAPTAIN OF 65-FOOT PURSE SEINER SWITCHES TO B. F. GOODRICH SPONGEX FLOATS... SAYS HANDLING IS EASIER THAN EVER BEFORE

"Three years ago we switched to B.F.Goodrich Spongex floats aboard our 65-foot purse seiner, 'Veteran'," says Captain Vincent W. Skonsie, Co-owner with his brother Antone, both of Gig Harbor, Washington.

B.F.Goodrich ring life buoys *for fishing boats have all the advantages of Spongex floats. U. S. Coast Guard approved and accepted by commercial lines.*

"There's no maintenance with these Spongex floats. They go right through our power block without any damage. Their weight stays the same—no waterlogging—and because less are needed to do the job, handling is easier than ever before," said Captain Skonsie.

All these advantages listed by Captain Skonsie—and still others—are what have put B.F.Goodrich floats on regular and newly converted seiners in fishing fleets everywhere. B.F.Goodrich floats come in 17 sizes, ranging from 3" x 1½" to 6" x 14". For full information, write to *The B.F.Goodrich Company, 145 Derby Place, Shelton, Connecticut.*

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Taiyo Gyogyo Extends Its Oversea Operations

Overseas operations of Taiyo Gyogo K.K., generally rated as the world's largest fishing company, will be further extended in 1960 as new ventures go on stream.

In Brazil, at Cabo Frio, about 60 miles east of Rio de Janeiro, a whaling station is to be completed by Taiyo by the end of March, 1960. Whales will be furnished by two killers belonging to Brazil Taiyo Co., a local corporation in which Taiyo and Brazilian capital are interested jointily.

Taiyo also is esablishing a fishing base on a small island some 60 miles from Tawau, British North Borneo. This station will handle Skipjack primarily and is being equipped with a cannery and cold storage. The enterprise is expected to be undertaken early in 1960. Cannd Skipjack will be packed exclusively for the British Commonwealth market.

Expansion of high seas trawling on a grand scale have a part in Taiyo planning. Oceanic trawling on the high seas in the vicinity of New Zealand and Australia has been maintained throughout the winter, apparently with success.

It is now reported that three of the eight 1,300-ton stern-system trawlers to be built for Taiyo in 1960 will be assigned to this Australia-New Zeland area. The others are expected to work off Africa, and elsewhere.

USBCF Moves Its Office in Juneau

The Alaska Regional Office of the U.S. Bureau of Commercial Fisheries moved to the Juneau Dairies Building at 810 West 12th Street on January 6. John T. Gharrett, regional director, pointed out that the Dairies Building already houses offices of the Bureau's Administrative Unit.

The present Bureau offices in the Federal Building were vacated to make room for the Alaska State Attorney General's office prior to the convening of the 1960 Alaska legislature.

The mailing address, Box 2481, and Bureau phone numbers will remain unchanged Gharrett said. Other Bureau offices maintained by the Research Division will continue in the MacKinnon and A. J. Mine Buildings until completion of the new Biological Research Laboratory at Auke Bay.

Gramson Is Mayor Again

Harold Gramson, manager of the Columbia River operations of the San Juan Fishing Packing Co. at Warrenton, Ore., recently was re-elected to his fourth term as mayor of Warrenton, an office he has held since 1953. The new term is for three years.

State Directors of Fisheries and Game at a recent meeting in San Francisco. From the left: **Milo Moore,** Washington; **A. M. Day,** Oregon; **Ross Leonard,** Idaho; **William Snyder,** Oregon Game director; **W. E. Warne,** California, since named director of agriculture. **Clarence L. Anderson,** Alaska director, was unable to attend.

A Quick Run-Down of Conditions
In Pacific States' Coastal Fisheries

Summary of significant points regarding the health and prosperity of Pacific coastal fisheries was given recently by fishery biologists of the Pacific states to the Pacific Marine Fisheries Commission.

Closely briefed, these are points emphasized:

Heater Heyamoto, reporting on the Washington troll fishery said that the 1959 catch was about 560,000 lbs. under the poor landings of 1958. He said that recoveries of marked salmon showed that fisheries were making a substantial contribution to the troll fishery. Speaking of Albacore, he reported that the Washington landings in 1959 were approximately 3,000,000 lbs., double those of the year before.

Don Kauffman said that the Washington trawl landings for the past year had shown a worthwhile increase in the tonnage of food fish delivered and that the winter season closure on petrale sole seems to be serving its purpose in providing protection for this species during the spawning period in the deeps off the coast of Washington and British Columbia.

Herbert Hegelberg, Washington shellfish specialist, reported that there seemed to be no agreement within the industry as to the desirability of a change in crab season opening dates in the interests of conservation and that no change could be recommended at this time.

In the case of ocean pink shrimp he said the Washington take had fallen in 1959. The catch in successive years, beginning with 1956, was 40,000 lbs., 2,400,000 lbs., 6,500,000 lbs., and in 1959 2,600,000 lbs. The average catch per hour had declined from 770,000 lbs. in 1958 and to 484,000 lbs. in the current year. He reported that the tolerance of 3,000 lbs. of incidental fish taken in shrimp trawling seemed to be working out well with the landings of fish by shrimp trawlers averaging only about 1/3 of the allowance.

Richard Pressey, reporting on the Washington sport fishery for salmon said that the amount of fishing showed a slight decline in the year 1959.

● *Robert Ayers,* reporting on Oregon trolling said that the fishing for tagging purposes had shown that barbless hooks used on trolling gear caught almost exactly the same number of fish as the conventional barbed hooks.

Oregon trawling was reported to be in good condition in 1959, although the depletion of petrale off that coast tended to continue.

Jurgen Westrheim, reported that the Oregon Albacore landings for 1959 were approximately 10,500,000 lbs., a gain of about 750,000 lbs. over 1958, and were the fifth highest landings on Oregon record.

Dale Snow, said that the Oregon crab catch of 7,000,000 lbs. was somewhat low in 1959, but not out of line with normal fluctuation. A study had been made of the November 15 opening of the crab season in Oregon without giving any clear-cut determination as to the possible desirability of a later opening. (Some conflict is evident between Oregon and Washington on the matter of opening of crab fishing. Oregon's opening on November 15, one month ahead of the Washington season, is confined to the southern portion of the coast, it was made plain by Harold Johnson, chairman of the Oregon Commission.)

Ray Morgan, reporting on Oregon shrimp, showed an encouraging increase in landings, which went up from 1,500,000 lbs. in 1958 to 2,300,000 lbs. in 1959, without having regard for the various substantial quantity of shrimp caught off the Oregon coast and delivered in Washington during the current year. In addition to the increase in total landings, the catch per hour moved up substantially from 492 lbs. in 1958 to 521 lbs. in 1959. Oregon also reported the start of a new fishery at Brookings, Oregon just north of the California line, with approximately 400,000 lbs. of landings, of which at least 80% were taken off the northern California coast and delivered in Oregon.

● *Paul Jensen,* reporting on salmon trolling for California said that all landings in that state are now on the basis of fish dressed head on, and that the old practice of landing round fish by day boats has virtually disappeared. The 1959 catch was 6,700,000 lbs., with 3,000,000 lbs. landed in July alone. The fish in that month were not only numerous but with an average landed weight of 18 lbs.

Donald H. Fry of California report-

The Secret of Sea Food with appetite appeal?

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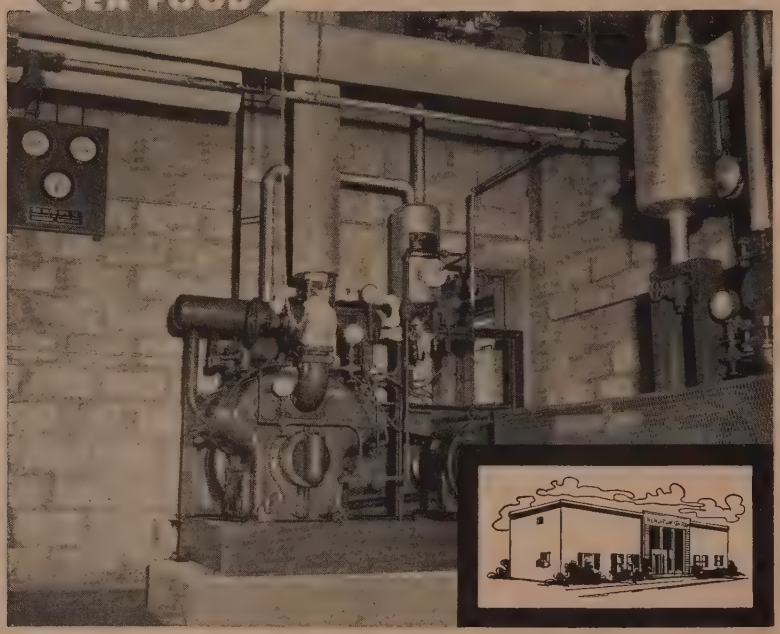

View of the Vilter VMC compressor installation at the new Henderson Seafood plant at Miami, Florida. Inset is exterior of new plant. Henderson offers a full menu choice—shrimp, sea food rolls, lobster cutlets, oysters, breaded scallops, fish fillets, among others.

Fresh, nutritious, tasty sea food from Henderson's is eagerly sought by restaurants and institutions. The strict quality control exercised continuously by Henderson to provide sea food for the finest cuisines is paying off in satisfied customers who have confidence in the product. The answer is quick-freezing and packing at the source while the product is sea-fresh, and under the most sanitary conditions.

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ed that in plans for the future the research work conducted by the International North Pacific Fisheries Commission might prove of vital importance in enabling the Pacific states to identify the regional origins of fish taken on the high seas, by trolling, a possibility of interesting implications in fishery regulation for conservation.

Ed Best, California biologist specializing in trawling, reported that 1959 would show something of a decline from the recent average of about 37,000,000 lbs. of trawl fish for California. The principal decline would be in rock fish. English sole fishing late in 1959 had proven excellent, tag recoveries from bottom fish marking had been exceptionally good with some 700 tags recovered from petrale sole alone.

Harold Clemens, reporting on California Albacore fishing, said that 1959 had produced approximately 3,000,000 lbs. more than the year before. In his opinion the great variations in availability of Albacore along the Pacific states is due to changes in the migration routes affecting their availability to the fishermen. California thinking, he said, is that Oregon and Washington albacore catches are taken from the same population as those of California, although it is significant that despite the substantial numbers of albacore which have been tagged in the California fishery none have been recovered off Oregon and Washington.

Harold Orcutt, reported that the California crab landings were well sustained in the range from 16,700,000 lbs. to 18,600,000 lbs. in recent years. Prospects for this winter fishery and that of the 1960-61 season are regarded as excellent. California experience finds that two escape openings four and three-eighths inches in diameter provide adequate escape for female and undersized male crabs.

Walter Dahlstrom, reported that the California shrimp fishery rose in 1959 to 1,778,000 lbs., largely through the development of a productive shrimping area in the vicinity of Crescent City. The catch per hour also rose to 638,000 lbs. While correlation between the California catch per hour and that of the northern states is rendered difficult by the fact that California shrimping uses the beam trawl as against the otter trawl common further north, it appeared probable that the California catch per hour in 1959 exceeded that of the northern states, due primarily to the productive Crescent City area.

Alfred Faraldo has purchased the interest of his brother Tony in the San Francisco purse seiner **City of Bari** and has changed the name of the boat to **La Paz. La Paz** is fishing out of Fort Bragg at the present time.

FOOD FISH MARKETING

Section of PACIFIC FISHERMAN —

News and Views of National Trade in Fish and Shellfish

February, 1960

Slants on Seafood Sales As Winter is Running Out

● Seattle's canned sea products market had a subtle shellfish flavor going into the last month of winter, with shrimp and crab making up in a measure for the shortage of salmon.

Let's take a peak at all three:

Salmon

● "The market is not what you'd call *vibrant,* but there's still salmon around," observed one sales manager. Pinks perhaps are in best supply — talls, and Japanese halves.

"Red talls are in acute scarcity. The price generally is $36, with the truly national brands at $37 and $38.

"Prices like that mean retail tags above $1 in the average American food store; and experience shows you don't sell much salmon above $1.

"While it's a long time before new-pack, and the selection is getting hole-y, the shelves won't be *absolutely* bare, come August."

Shrimp

● Basic price of Pacific canned shrimp at $7 is proving unprofitable to Pacific Northwest and Alaska canners generally. Careful calculations of their costs show that the $7 figure leaves little or no profit margin.

How to get it is the present problem of Pacific shrimp canning.

The problem of plant capacity was quickly overcome; and probably overdone. Fishermen have rejected the plan of fishing on a price-per-case-canned basic; and priced based on poundage are dangerous to the packers because of the sweeping variability in yield. For example, and for reasons not at all well understood, it takes a lot more Alaska shrimp — "round" weight — to pack a case of canned shrimp than it does in Washington.

At $7 per case of 24, shrimp sells is supers at around 39¢, which does not lend itself to ready selling. You can't get much more when Gulf shrimp of widely known brands is selling for around 38¢.

Evidence accumulates that Pacific canned shrimp is finding increasing popularity and distribution.

Ivar Wendt, one of the leading distributors of Pacific canned shrimp, has an impressive file of "fan mail" on the subject, which shows unquestionably that consumers appreciate sweetness, tenderness and freshness of Pacific shrimp. This last point is often emphasized in letters which comment favorably on the fact that the Pacific shrimp are "not too salty."

Crab

● Crab canning was slow at the end of January when this issue closed. Fishermen were getting 14¢ per lb., and at a $12.50 selling price for a case of 24 halves this left a really scant margin, if any.

Sales were steady, but of course the volume was low and the profit narrow. Canners complained of the scant recovery from crabs, and the cooked-in-the-shell trade found them uninteresting from the standpoint of size and weight.

Wilbur-Ellis Sends Mack To Marine Products

Richard K. Mack, for a number of years associated with the San Francisco frozen seafood department, Wilbur-Ellis Co., San Francisco has been transferred to Marine Products Co. (a subsidiary of Wilbur-Ellis Co.) in San Diego.

Mr. Mack's new position will be assistant to the general manager of the division. Eugene Clahan has joined the staff of the Wilbur-Ellis San Francisco frozen seafood department, according to John A. Lauc, manager of the department.

Seattle Market

Market prices currently quoted at presstime by Pacific Northwest brokers and cannery sales department, cases of 48 tins, unless otherwise specified, good quality, as reported by the U. S. Bureau of Commercial Fisheries, Market News Service.

Items and Packages	Per Case
Puget Sound	
Sockeye, halves	$24 -25
Sockeye, quarters	14 -14.50
Alaska	
Red, talls	36 -38
Red, halves	24 -25
Red, 4 lbs. (12)	-37
Pink, talls	24 -25
Pink halves	13.50-14
Pink, 4-lbs. (12)	-25
Coho, talls	32 -34
Coho, halves	18 -19
Coho, 4-lbs. (12)	32 -34
Coho, quarters	11 -11.50
Chum, summer, tall	-22
Chum, summer, halves	12 -12.50
Chum, 4-lbs. (12)	-23
Chinook, talls	-32
Columbia River	
Blueback, halves	25 -26
Blueback, quarters	14 -14.50
Chinook, fancy, halves	25 -26
Chinook, fancy, quarters	-14.50
Chinook, choice, halves	17 -20
Chinook, choice, quarters	-11.75
Silver, halves	18.50-19
Silver, quarters	11.50-12.25
Tuna, Northwest Pack—	
Albacore, fcy., 7 oz.	13.50-16.25
Yellowfin, chunk, 6½ oz.	9 -10
Tuna, Featured Pack—	
Albacore, fcy, 7 oz.	14.85-15.25
Albacore, fcy., 3½ oz.	9.10- 9.15
Albacore, chunk, 6½ oz.	10.50-13.25
Albacore, chunk, 3 oz.	6.50- 8
Lightmeat, fcy., 7 oz.	14.25
Lightmeat, fcy., 3½ oz.	8.55
Lightmeat, chunk, 6½ oz.	11.00
Lightmeat, chunk, 3 oz.	7.50
Canned Crab—	
Dungeness, 24, 6½ oz.	12.50
Dungeness, 3¾ oz.	7.60
Northwest Shrimp—	
Wet Pack, 24, 4½ oz.	7.25
Alaska Shrimp—	
Tiny, 24, 4½ oz.	7.25- 7.50
Small, 24, 4½ oz.	8.50- 9.00
Medium, 24, 4½ oz.	10

California Imports of Frozen Tuna

Cumulative data in tons for 1960 through Jan. 16, and for other years to the nearest comparable date. Data from U. S. Market News Service

	Albacore	Skipjack	Yellowfin	Unclassified	Total
San Francisco	20	...	392	26	438
San Pedro	707	235	864	..	1,806
San Diego	152	...	....	..	152
Total to Jan. 16	879	235	1,256	26	2,396
1959	660	543	2,760	..	3,963
1958	1,269	236	2,126	..	3,631

Southern California Domestic Tuna Deliveries

Cumulative totals for 1960 through Jan. 16, in tons, as reported by U.S. Market News Service

	Albacore	Bluefin	Skipjack	Yellowfin	Bonito, etc.	Total
Clippers and Albacore Fleet			737	564		1,301
Purse Seiners			291	650		941
Total 1960 through Jan. 16			1,028	1,214		2,242
Total 1959		12	2,304	2,424		4,740
Total 1958	2		2,050	2,616	1	4,669

Salvatore Castagnola Dies in Santa Barbara

One of the pioneers of Southern California's fish industry, Salvatore A. Castagnola of Santa Barbara, died there last month.

Mr. Castagnola is said to have brought the first motor-driven fishing boat to Santa Barbara shortly after the turn of the century. Born in Italy, he came to Santa Barbara 55 years ago and immediately began fishing commercially, using a rowboat to fish from and a hand-cart to haul his catch to market. He and one of his sons established Castagnola Bros. Fish Co. & Market in 1929. Mr. Castagnola retired 22 years ago.

Besides his widow, he leaves eight sons and three daughters.

For over 65 years...

Bumble Bee has upheld and extended the reputation of the seafood canning industry by processing and marketing products of the finest quality.

In this way, Bumble Bee's matchless standards help to insure the growth of our own business, the welfare of our employees, and a constantly expanding market for the catch of the fishermen.

Columbia River Packers Assn., Inc.
Astoria, Oregon

Tuna, Salmon, King Crab Meat, Frozen Seafoods, Seafood Delicacies

T. W. Dickinson Chairman Of Simpson, Roberts, Ltd.

With the first of January, 1960, G. E. Roberts resigned as chairman of Simpson, Roberts & Co., Ltd., Liverpool, a leading British food distributing house.

He was succeeded as chairman by T. Wesley Dickinson, who has been in the service of the company for 40 years, 20 of them as a director. During the years 1941-45 he was with the British Ministry of Food as director of distribution of canned fish.

Mr. Roberts resigned as chairman because of his health, but is remaining as a member of the board of directors.

Simpson, Roberts Co., Ltd., is represented in North America by Charles R. Harrison, Canadian executive director, with headquarters at Shediac, New Brunswick. Its "Princes" brand of fine foods, including many other items besides canned fish, is a famous one in Britain.

J. B. Russell, Veteran Fishery Trader, Passes

James Barron Russell, active in the fish export business in British Columbia for nearly 60 years, died in Vancouver in mid-January, aged 73.

Mr. Russell was a partner in the firm of Powell & Russell for many years and was active until only a few days before his death. He entered the industry with Evans, Coleman Evans in 1903 and a few years later he joined R. V. Winch & Co., going to Dodwell & Co. in 1919, and becoming assistant manager of the merchandising department.

In 1932 he established a partnership with the late W. Page Powell, specializing in the canned salmon export field.

The trawler **M. S. Martiri,** owned and operated by F. Alioto Fish Co., San Francisco, will be repowered with a rebuilt Model MD 165 165 hp. Murphy diesel engine, purchased from and to be installed by Oswald Machine Works, Fishermen's Wharf, San Francisco. The engine is fitted with a 3-1 Snow-Nabstedt reverse and reduction gear.

Mike Sciancolepore is skipper of the **M. S. Martiri.**

Annual Salmon Cutting Is Set for March 15

The annual Canned Salmon Cutting sponsored by the Association of Pacific Fisheries and the Northwest Branch of the National Canners Association will be held in Seattle March 15 at the Olympic Hotel.

The event will follow the usual pattern with the morning devoted to the examination and judging of hundreds of samples of the 1959 pack gathered during the operating season.

This will be followed in the afternoon by a technical meeting at which the results of the cutting will be discussed and other technological matters reviewed.

The Fisheries Research Institute of the University of Washington will make a report on its current investigations, and the conclusions and predictions which can be drawn from them. This report will have particular interest this spring, as it will be recalled that Dr. W. F. Royce, director, and his staff already have ventured a courageous and highly optimistic forecast on the outlook for the Bristol Bay Red salmon run of 1960.

More Shrimp than ever before* are processed by Peelers Co. Machines**

*More than ¼ of the total catch

**The Peelers Co. specializes in shrimp peelers, deveiners, and graders.

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Southern California Receipts

	Albacore	Bluefin	Skipjack	Yellowfin	Bonito, etc.	Total
San Pedro	707	..	646	1,892	..	3,245
San Diego	152	..	326	186	..	664
Total 1960 through Jan. 16	859	..	972	2,078	..	3,909
Total 1959	559	12	2,847	4,727		8,145
Total 1958	1,271	..	2,286	4,236	1	7,794

Littleneck Clam Culture Projected for Humboldt

● Introduction of Puget Sound "littleneck" hardshell clams on Humboldt Bay, north of Eureka, Calif., by the Coast Oyster Co. has been sanctioned by the California Division of Fish and Game on an experimental basis.

Acting under this permission, F. M. Douglas, Coast's California operations manager, hopes clam beds can be built up in extensive areas of flats which are now commercially barren.

Transfer of the clam seed from Washington state beds will begin as soon as the mud flats are converted to firmer condition by distribution of broken oyster shells from the company's packing operations at Eureka.

The littlenecks to be introduced will be of two species, the Puget Sound native type and the "Manila" clam, a closely similar variety which was introduced to Pacific Coast waters accidentally with oyster seed imported from Japan.

Both varieties are already found in Humboldt Bay to a limited extent, according to Mr. Douglas.

First part of the experiment is to see if the clams can be successfully transplanted and will flourish on a commercial quantity basis.

The site to be used now constitutes a large area in the upper reaches of the Bay near Arcata, which under its present condition is unsuitable even for oysters, Mr. Douglas said.

● Another experiment is to be launched in the Salton Sea in inland southern California, according to Vern Hayes, president, Coast Oyster Co. This will be an attempt to propagate Japanese oysters in that heavily salted body of water.

Objectives of the experiment are to see if the oysters will live in the warmer water and higher salinity; if they will fatten to market quality if they do live; and to see if they will spawn and propagate under those conditions.

It is also hoped that an oyster seed culture can be developed which will replace or augment the present importation of seed from Japan.

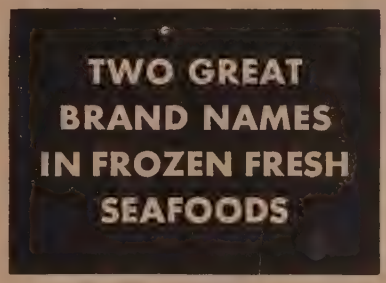
All knowledge gained from the experiments will be made available to the Department of Fish & Game, Mr. Douglas stated.

Japan Fishery Emigrants Leaving for Ecuador

A "large number" of what are called "fishery emigrants," meaning probably men (and their families) who are to settle in a new land and engage in fishing, are said to be getting ready to leave Japan for Ecuador. In preparation, a scientific mission from Tokyo Fisheries College is planning a survey of the fisheries, fishing methods and seasons for shrimp, tuna and sardines in Ecuadorian waters, including those around the Galapagos Islands.

The emigrants are to be sent to Ecuador under the official auspices of Nagasaki Prefecture, westernmost subdivision of Japan. The survey is to be made by the training *Umitaka Maru*, 1450 tons.

Nino Cresci, managing owner and skipper of the San Francisco trawler **Giuseppe Maria**, died recently, age 43. He leaves a wife and three children.



FRESHEST FISH IN THE FREEZER

More than 37 Delightful Frozen Seafoods in Both Brands

NOW VACUUM-PACKED STEAKS & FILLETS

IN SAN JUAN'S OWN FLAVOR-SAVOR RETAIL-SIZE PACKAGES

SAN JUAN FISHING & PACKING CO.
PIER 31—SEATTLE, WASH.

Chile's Tender Lobster Tails an Attractive Item

● Typical products of Chile's growing fisheries industries are canned rock lobster tails and canned shrimps. The Chilean lobster tails are small, tender, beautifully white and red. The cans themselves are standard halves, with paper labels, packed in standard cartons of 24 each.

Sociedad Pesquera e Industrial Ruiz Ltda. (Ruiz Fishing & Packing Co. Ltd.) is one of the few firms successfully exporting these commodities to Europe and the US.

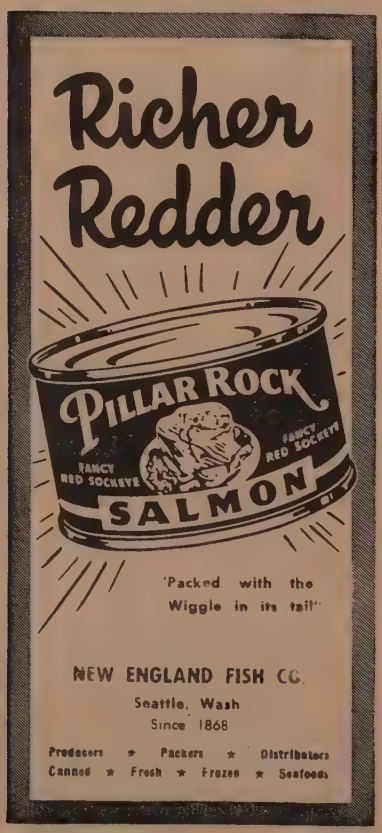
Chilean marine products are caught by boats of various types, both wood and steel hulls, 40 to 50 tons, some owned by the canning or fishery companies, some independently owned by individual fishermen, who may own one boat or several. Fish and seafood are landed at several Chilean ports, among them Arica, Iquique, Antofagasta, Coquimbo, Quintero, Valparaiso, San Antonio, Talcahuano, Puerto Montt and Punta Arenas, naming them from north to south. Chile's fishing grounds extend along the Republic's entire coast, Arica being almost on the Peruvian border and Punta Arenas in the Magellan Archipelago near Cape Horn.

There is a serious shortage of fishing vessels in Chile, and efforts are being made by packing companies and the Government to attract fishermen and boat owners from other lands to the Chilean fisheries.

The processing and packing procedures followed by the Ruiz plant are modern and standard. The langostinos, alive, are washed free of sand when landed from the boats. In the plant the tails are removed by hand, washed again, and boiled for three minutes at 212 deg. F. The shell and digestive tube are removed by hand, and the tails are washed in solutions of citric, ascorbic and lactic acids at 185 deg. F. for 15 minutes. Then the cans are filled by hand and retorted for 70 minutes at between 212 and 216 deg. F. Cooled in the retorts with cold water, the cans are washed, labeled and packed in cartons.

Most of the equipment used is of stainless steel, and all tools are sterilized in an autoclave every two hours. Tables, etc., are sprayed with dry steam at above 300 deg. F.

In 1958 Chile produced 225,806 tons of fish and sea foods, 12,698 tons more than the previous year's total, and about 13 times as much as was produced in 1931, first year for which statistics are available.



Main Fish Co. Loses Last of its Founders

Ichimatsu Kihara, the last survivor of the brothers who founded the Main Fish Co., Seattle, died at the end of December. He was 66.

Officers of the company now are: Martin Y. Kihara, president and general manager; Koichi Kihara, vice president; Eugene Kihara, secretary; and Y. Furukawa, treasurer. Each of the first three named is a son of one of the founders of the firm. Mr. Furukawa is a brother-in-law of Koichi Kihara.

Soviet Rocketry Stirs Japanese Tuna Fishermen

The Japanese tuna industry was stirred by the Soviet Union's January announcement that the sea between Johnston, Bikini and Christmas Islands would be the target area for long-range rockets from Russian bases.

Prefectural tuna fisheries cooperatives associations, notably that at Yaizu, made representations to Tokyo, protesting the project, which involves an important winter fishing ground for Bigeye tuna.

However, as far as Yaizu was concerned, it was apparent that the clippers could be diverted to the more profitable fisheries for Bluefin and Black Marlin in the Indian Ocean.

INPFC Has New Address

New address of the International North Pacific Fisheries Commission is now 6640 N. W. Marine Drive, Vancouver 8, B.C., Canada, it is announced by Roy I. Jackson, executive director.

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CANNED and FROZEN FISH
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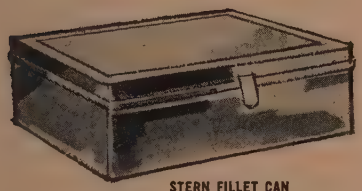
STERN FILLET CAN

1 GALLON CLAM AND OYSTER

This year marks the 150th Anniversary of the Metal Can Industry and the 59th year in which Stern has been producing cans to bring greater efficiency and economy to business.

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MARINE ENGINEERING
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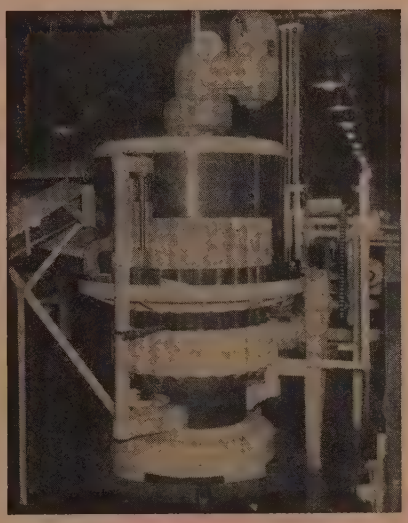
The PAK-FORMER



Leading tuna canners are now using the PAK-FORMER for their Chunk and Grated Style Packs. A variable speed drive permits filling speed adjustments of between 140 and 250 cans per minute. Available to the industry under similar terms as our PAK-SHAPER.

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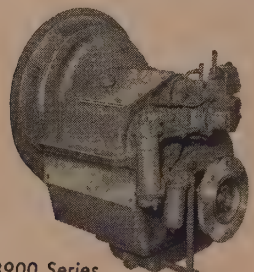
Engineers and Designers to the Food Packing Industry
P. O. Box 1332 Warrenton, Ore.

"Now I've got more power than I ever had in my fifteen year old Flo . . . and a mighty rugged set of gears to handle it."

These are the words of a power-wise skipper . . . Captain Walter Ross, of the 75' dragger *Flo* at Rockland, Maine. "That's the way to deliver all the Waukesha engine power . . . with S-N gears. I get plenty of flexibility, too, for tricky handling around nets. A good engine and S-N Gears . . . rugged, smooth, flexible . . . you couldn't ask for a better combination." Take the advice of Captain Ross and insist on S-N performance-proven gears for new boats or repowering. See your S-N distributor or write direct. The Snow-Nabstedt Gear Corporation, Hamden, Connecticut.

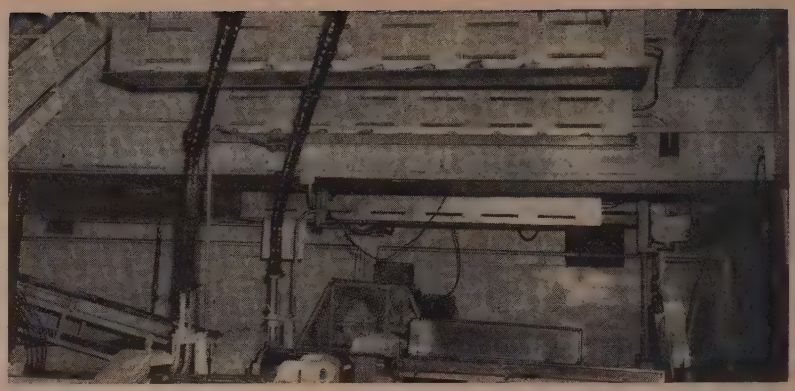


S-N 3900 Series

YOUR BEST BUY IN DEPENDABLE GEARS

SNOW-NABSTEDT

Transmission Engineers
FOR OVER HALF A CENTURY



Fluorescent lighting problems of Washington Packing Co., San Francisco tuna cannery, are overcome by these Miller special housed-in fixtures, shown here installed above the Pak-Shapers.

Home-Made Fixtures Solve Cannery Lighting Problem

● While more and more attention is being devoted to gaining efficiency in fish packing and handling plants, one important factor in efficiency receives little attention, and this is — lighting.

Thomas N. Miller, manager, Washington Packing Corp., San Francisco tuna and pet food packing firm, felt the need for better lighting in their packing room and did something about it.

"Our packing room was equipped with the standard commercial fluorescent and incandescent fixtures. These were the best commercially available," Mr. Miller told *Pacific Fisherman*.

"However, these were objectionable for two reasons; they had a tendency toward glare and resultant eye fatigue; there was a potential hazard to the fish being packed from contamination from shattering of tubes and bulbs; and finally, there were maintenance problems and dangers.

"Tuna packing," said Mr. Miller, "requires ample and proper lighting to enable the packers and inspectors to perform their functions correctly to eliminate unsatisfactory colors and textures in the cooked fish."

Failing to find a commercially available fixture, Mr. Miller designed the fixtures now installed and had them built. He had 10 sheet metal boxes, 120" long, 16" wide, and 12" deep constructed. Inside the box, on the sides are placed 20 porcelain sockets in a staggered pattern. The boxes are louvred to allow the escape of heat, and they are painted with a flat white paint inside.

The boxes are mounted with the open side down, and this bottom is covered with 1/16" thick glass fiber sheeting specially selected for its light diffusing qualities. It is called "frost" —not clear, but slightly frosted.

The bulbs, chosen, after much experiment, are of three types in different combinations. They are of 25 watt capacity each, which gives 500 watt of bulb capacity per unit.

Mr. Miller has found that the best combination was for inspection—one-third blue bulbs in combination with standard white. For machine operation, over the Carruthers Pak Shapers, the blue bulbs were eliminated and the fixture is equipped with alternate standard white and daylight bulbs.

Said Mr. Miller: "We feel that we have accomplished better color determination at the inspection point and have at the same time eliminated eye strain. We have removed the danger of product contamination from shattering tubes and bulbs. Maintenance is extremely safe and simple, since the failure of one bulb does not make the fixture inoperative. We feel that we have achieved an adequate level of illumination without subjecting operating personnel to glare and heat, due to the low operating temperature of these fixtures."

* * *

American Freezer Co., Monterey, Steve Genovese and Joe Lopez, partners, has made a number of improvements during the year. The company, which is one of the biggest shippers of frozen squid, has built a new holding room, 80 x 40'. A new two-stage Fuller rotary compressor has been added to give a boost to refrigeration capacity. Beside squid the company also receives sardines and mackerel for freezing.

* * *

The former Monterey purse seiner **San Vito**, once owned by **"Hap" Myers**, has been converted to a dragger, and has been sold to **Gib Hunter**, Hunter & Foland Fish Co., Fields Landing, Calif.

Lois B., believed to be the first refrigerated abalone carrier on the Pacific, was converted to peacetime service from a 110′ Navy crash boat.

Chilled Abalone Carrier Adds Profits to the Trip

● Something new in abalone craft, as well as in Navy conversions to commercial duty, is displayed at Santa Barbara, Calif., where a Navy crash boat became the *Lois B,* the Pacific Coast's first refrigerated abalone boat.

Lois B is owned and skippered by Huck Kuzen, a veteran abalone diver who works out of Santa Barbara, diving off the Channel Islands.

Most abalone boats are day-boats, for the catch must be brought in as fresh as possible to the wholesale markets. There are many times, however, when an abalone fisherman would very much like to stay on the fishing grounds for two days or more. This is impossible without refrigeration.

Sometimes fishermen have only a partial catch, but fishing is good, and another day would mean a lot more revenue. Fishermen often solve this problem by having a pick-up boat take their catch ashore, while they stay out an additional day.

Other times, the weather may get rough, or threaten to get rough, in which case the fisherman must either make a run for it into port or ride out the storm in an island haven. This means he either has to go in without a full load, or stay out another day or two and risk spoiling what he has.

Refrigeration, Mr. Kuzen thinks, will solve these problems by making it possible to hold abalone for as long as four days.

Fast and Comfortable

Built as a high-speed rescue boat, *Lois B* is 110′ long by 18′ beam, all-wood hull, and has a cargo capacity of 113 tons. She is powered by two 671 GM diesels, each 220 hp. Her engine turn two 30-20 screw propellers via two 1⅞-in. monel shafts. Her engines are housed in an engine-room below decks a little forward of amidships, while the refrigerated hold is aft, under a roomy fantail with plenty of work space. In fact, the skipper has a couple of lounging chairs and a table on the after deck.

Lois B has a Twin Disc 1½:1 reduction gear and Goodrich Cutless stern tube bearings. Her auxiliary is a Crofton diesel engine, a conversion of a Coventry English diesel unit. The vessel sleeps eight.

Her navigation aids are a Bendix depth gauge, two-way radio and automatic pilot. She has a snug, comfortable galley with a Dixie butane range, and the crew's accommodations are roomy for a fast fishing bot.

Skipper Kuzen uses *Lois B* as a mother ship a good deal of the time, doing the actual diving from a smaller boat, which he tows to the fishing grounds behind *Lois B.* The big boat can tow the little one a good deal faster than the little one can go under her own power.

Mr. Kuzen, who is a thinking man, feels that efficient refrigeration will cut his costs of production even while he operates a considerably bigger boat. *Lois B* will give him, he feels, more fishing time per trip, more abalone per trip, and higher quality abalone at the delivery dock. Also, the *Lois B* is a fast, seaworthy, sleek-looking craft, a boat any man would be proud to own.

C.R.P.A. Names Larson Puget Sound Supt.

Vern O. Larson, for the past 12 years in charge of the Bellingham cannery of the Columbia River Packers Association, Inc., and assistant general superintendent of its Puget Sound operations, in January was announced by T. F. Sandoz, company president, as advanced to general superintendent, in charge of all the C.R.P.A. plant and procurement operations in the area.

Mr. Larson has been with the company most of his adult life, serving in the canneries at Ellsworth and Aberdeen, Wash., in Alaska, and in the Astoria tuna cannery before being assigned to Bellingham.

Mr. Sandoz said it is the company's plan to operate the plant at Bellingham actively in 1960. Additional staff there includes: Del Howell, office manager; S. P. Anderson, fish procurement; Harry Healy, warehouse and traffic manager.

ASHAWAY TUNA LEADER LINE

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Dynamometer-tested when fully assembled to assure peak performance under all operating conditions.

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* READY TO INSTALL including: heat exchanger, fresh water cooled exhaust manifold, fresh and sea water pumps and a wide selection of hydraulic or manual reverse and reduction gears (front end power take-off optional). Send for specifications

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BARR MARINE PRODUCTS CO.
Diesel Division
2713 E. Castor Ave. ● Phila. 34, Pa.

LINES and LEADERS

Frederick J. Gunther, new product manager of the Marine Engine and Public Works Divisions of the Waukesha Motor Co. After joining Waukesha in 1940, Mr. Gunther served in various capacities in the sales department, and has recently concentrated his activities in the sales and applications of the Marine and Public Works markets.

Nordby Supply Co. Is Named DeVoe & Raynolds Distributor

Nordby Supply Company, Seattle, is now the reecntly appointed Washington and Alaska distributor for DeVoe and Raynolds Marine Paints. Coleman Clark, Pacific Coast sales manager for DeVoe and Raynolds, and Gay Elliot, Nordby sales manager, point out that Nordby's will have a full line of heavy duty DeVoe and Raynolds marine paints for the cannery trade as well as stocks available for two boats, industrial and contract accounts in Washington and Alaska waters.

Mr. Elliot also announced the appointment of Bill King as assistant sales manager, servicing primarily Norby's industrial accounts. Mr. King has served in various capacities with the firm for many years and is exceptionally well equipped to work with Nordby's suppliers and accounts, according to Mr. Elliot. At the same time, Paul Ruelas has been appointed field salesman for Nordby, serving the marine and industrial field.

Glen W. Bickley Joins Peterson, California Caterpillar Distributor

Glen W. Bickley has been appointed a marine engine sales representative for Peterson Marine Division, Peterson Tractor Co., San Leandro, Calif., northern California Caterpillar engine distributors.

Mr. Bickley, a graduate in mechanical engineering at the University of Minnesota, was formerly with the product research department of Caterpillar Tractor Co. before joining Peterson a year ago. His new position with the marine division of the tractor firm involves furthering the sale of Caterpillar engines to all segments of the marine engine market, including pleasure boats.

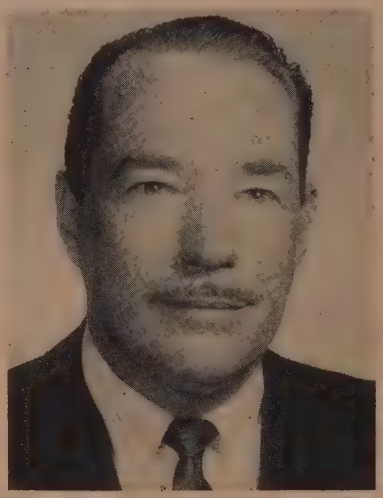
W. L. Pringle Heads Chrysler Marine & Industrial Motors

William L. Pringle in January was appointed president of Chrysler Corporation's Marine and Industrial Engine Division, succeeding A. S. Hudson, who has resigned.

Mr. Pringle, who resigned as a director and president of Hercules Motors Corporation to accept this position with Chrysler, brings to the Marine and Industrial Engine Division over 22 years experience in the engineering and sale of industrial products to American industries.

Mr. Pringle was associated with the Timken Axle Division of Rockwell-Standard Corporation and with the Long Manufacturing Division of Borg-Warner Corporation, before assuming the presidency of Hercules Motors Corporation in 1957.

Chrysler Corporation started production and sale of marine and industrial engines in 1927 and since that time has been a leading supplier to the rapidly expanding boating industry and to hundreds of industrial concerns throughout the world, Mr. Gorey stated. Mr. Pringle's background and experience, he added, well qualifies him to direct the activities of this expanding division and to carry out a program calling for accelerated product



W. L. PRINGLE—President, Marine & Industrial Engine Division Chrysler Corporation

development as well as diversification of product.

Mr. Pringle will be located at the division's main office at 12200 East Jefferson Avenue, Detroit.

RCA New Small-Craft Products Include Powerful, Compact Radar

A compact radar unit that will give the small craft skipper a range of safety surveillance wider than ever before possible is announced by the Radio Corporation of America.

"Extended range radar now is within reach of the average fishboat owner," said J. J. Graham, General Manager, RCA Communications and Industrial Electronic Products Operations Division. "One of the major foul weather problems of such craft always has been keeping well clear of larger vessels and picking up gear buoys. This new radar, one of a group of additions to RCA's line of small craft electronic devices, provides a scanning range up to 18 miles."

There are four operating ranges from one-half mile to the full 18-mile limit. A simple flick of the range selection switch changes the surveillance area. The RCA small craft radar can draw its power from 12, 24 or 32-volt batteries, as well as from 115-volt direct or alternating current systems.

The rotating antenna is housed in a radome with a diameter of only 26". The radome can fit easily atop the cabin of a 25' fishing vessel.

Employment of a transistorized power supply and "economy-conscious" circuitry reduces the power drain to 300 watts, little more than the average radio-telephone; and the transmitter-receiver unit was designed to be tucked away in any shipboard location providing three cubic feet of space.

Fyr Fyter Co. Appoints Bob Hamilton at Seattle

The Fyr Fyter Company has appointed Bob Hamilton to represent its Pyrene C-O-Two Division as Northwest district manager, with headquarters at 2519 Second Ave., Seattle. He represented the company out of its San Francisco district office previous to this appointment, and he replaces John A. Whitlock, who held this post for 12 years until recent resignation to enter business for himself in the tax and business advisory field.

Net Expert Joins Fisheries Sales Dept. of PMS

Pacific Marine Supply Co., Seattle, has created new sales staff positions and arrangement of its sales divisions has been changed to give better service to its customers, according to a recent announcement released by Robert D. Ladd, vice president and general manager.

Don Sutherland moves into the newly created position of assistant dealer sales manager, responsible to Art Bauer. Don Nettleblad now is responsible for operation of the purchasing and traffic departments, keeping of inventory records and warehousing activities.

Inside sales floor staff has been streamlined and will be under Sutherland's direction, and William Lagerquist joins this staff after two years as salesman in the fisheries division. Mel Peretti, an employee in the netting and rope division of the company for 10 years, replaces Lagerquist as salesman in the Fisheries division under Neal Slayton, with Jerry Jurkovich.

The Mercury outboard motors division has no personnel changes, but may add new members with its expanded space for motors and parts inventory, and electronic equipment for record keeping has been added there.

The steamship division, headed by Al Ingraham, has been moved into the industrial division where Ingraham will be assistant manager of the division responsible to Ed Englehardt, manager, and continuing to direct steamship division activities. Jerry Kourkoumelis continues as salesman in the steamship division.

Mel Peretti, fish netting expert, assigned to Fisheries Sales Division of Pacific Marine Supply Co.

G-P Marine Becomes Part Of Socony Mobil Oil Co.

The Marine Department of General Petroleum Corporation became the West Coast Division of the Marine Transportation Department of Socony Mobil Oil Company, Inc., effective January 1, according to a recent announcement by Robert L. Minckler, president of General Petroleum. The division will continue to be located at Terminal Island, California.

H. C. Ellis, present manager of the Marine Department, will become manager of the new division, according to Minckler.

Columbian Propellers Available In Stainless Steels Now

Columbian Bronze Corporation this year notes addition of stainless steel to the family of alloys in which they offer their propellers, long-noted for their craftsmonship and quality.

Stainless thus joins Electralloy bronze and Superston in the Columbian line, and will be available in the same wide range of sizes as the company's other propellers. A variety of stainless alloys will be available, but it is expected that Type 304 ELC with carbon held to .03 percent maximum will normally be offered, as this alloy provides the most ideal characteristics for most propeller service.

J. M. Ets-Hokin Succeeds Father

Jeremy M. Ets-Hokin was elected president of Ets-Hokin & Galvan, one of the nation's largest electrical contracting firms.

Ets-Hokin replaces his father, Louis Ets-Hokin who was elected chairman of the board of directors. Robert S. Lauter was elected executive vice-president. The new president previously had served as manager of the San Francisco branch and then as vice-president in charge of sales for the entire organization. Lauter formerly held the position of legal and financial vice-president.

Other new appointments by the board of directors include: Milton H. Schug, EHG Los Angeles branch manager, first vice-president; A. C. Eddy and Fred L. Byrum, San Diego branch co-managers, second and third vice-presidents, respectively; and William A. Brown, Los Angeles branch, fourth vice-president.

Johnson Dealers Meet New Regional Manager

Robert J. Preston, new Sales Manager for Johnson Motors, met a group of nearly 300 Johnson dealers in a convention at Seattle last autumn where he introduced E. A. "Andy" Anderson, the new Regional Sales Manager for Johnson covering some 15 western states.

Cannery Workers' Union Elects Mrs. Gomez

Mrs. Andrea Gomez last month took over as new president of the Fish Cannery Workers' Union of the Pacific, which represents workers in the Terminal Island, Calif., tuna, sardine and mackerel plants.

Mrs. Gomez succeeds Tom Ivey. Serving with her in the leadership of the union are Frank Rivera, business agent, District 1, Arnulfo Miranda, business agent, District 2, and Steve Edney, vice-president of the union and business agent for District 3.

The union recently signed a contract with cannery managements.

13 Cooperative Gillnetters Continue Herring Fishing

(Continued from page 15)

fish meal was $2.30 a unit and herring oil 9¢ a pound. The price of herring meal and oil declined over 15% by the spring of 1959. The companies offered to continue the $13 price for reduction herring in the hope that the market would recover, but the offer was rejected. However, agreement was reached in October, the fishermen returned to the fishing grounds and a record catch of 166,000 tons was made.

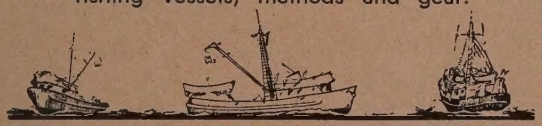
However, the market continued to decline and with meal selling at only $1.65 a unit and oil at 6.65¢ a pound, the operators decided to discontinue operations.

Manufacturer's Representative

CROWELL DESIGNS, INC.
SEN-DURE PRODUCTS, INC.
GRUNERT ELECTRIC REFRIGERATION
HILLER ALCOHOL STOVES

FISHING CONSULTANTS

Marco's engineers are consulting with private companies in many foreign countries to improve the efficiency of fishing vessels, methods and gear.



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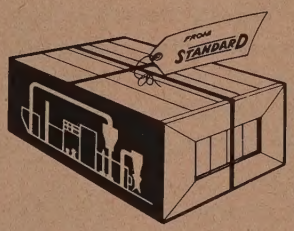

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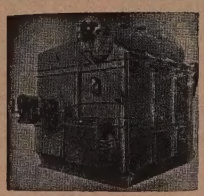

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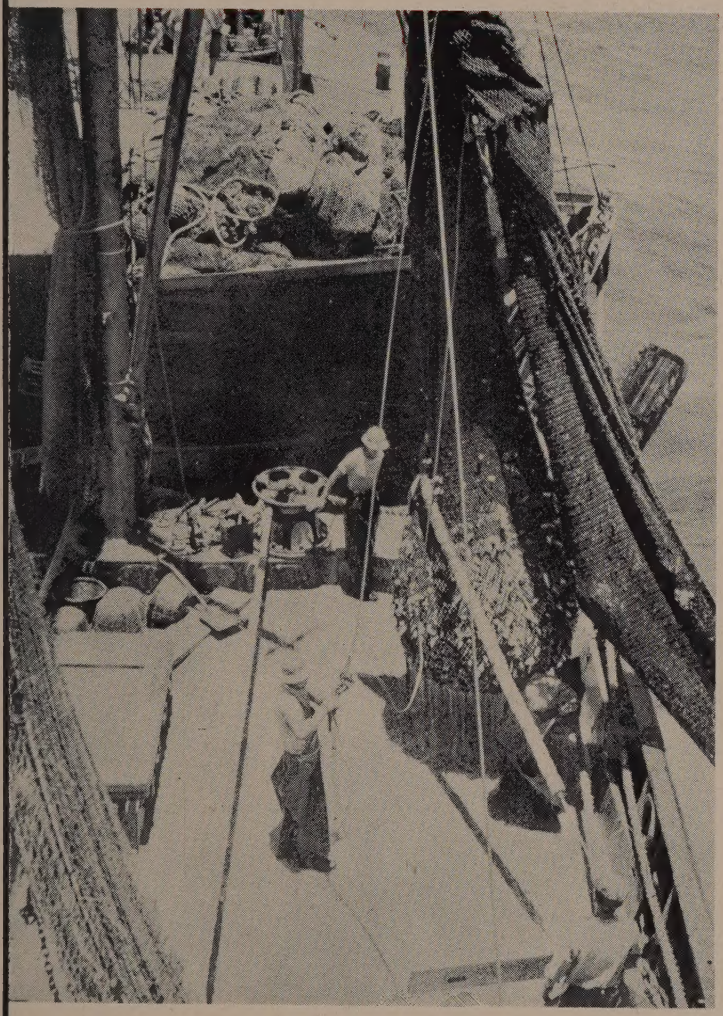

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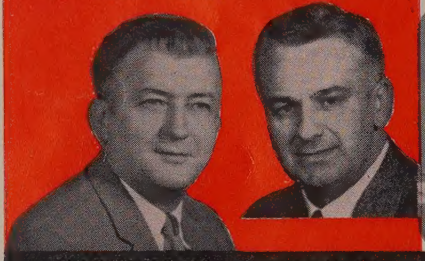

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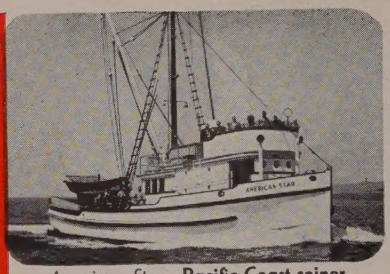
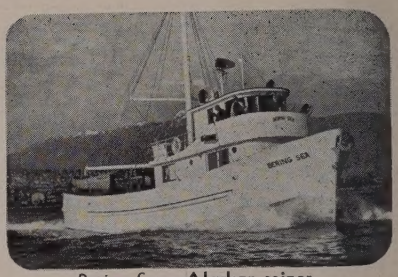


American Star—Pacific Coast seiner



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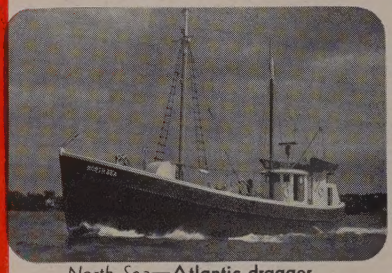

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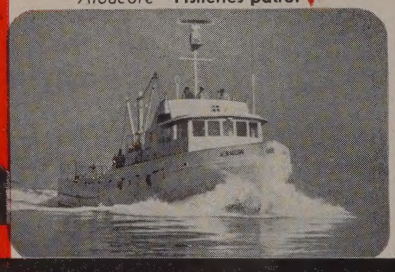

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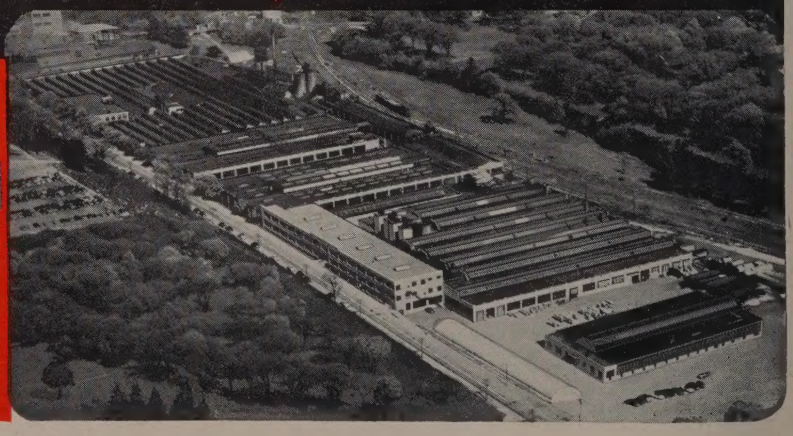

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